

Multiplying polynomials - Fractions - Simplify product of binomials and trinomials

Simplify product of fractions with two variables:

$$1) \left(\frac{1}{2}x + \frac{3}{8}y\right)\left(y^2 + \frac{1}{2}x^2 + 1\frac{1}{6}xy\right)$$

$$2) \left(2n + 2\frac{5}{6}m\right)\left(2n^2 + 2m^2 - 2\frac{4}{7}mn\right)$$

$$3) \left(1\frac{4}{7}a + 2\frac{3}{4}b\right)\left(1\frac{4}{5}a^2 + \frac{2}{5}ab - 3\frac{1}{4}b^2\right)$$

$$4) \left(4\frac{2}{3}x + 1\frac{1}{2}y\right)\left(4\frac{3}{4}x^2 + 1\frac{2}{3}xy - \frac{3}{7}y^2\right)$$

$$5) \left(4\frac{1}{3}x + 2\frac{3}{8}y\right)\left(8x^2 + 2xy + 2\frac{1}{8}y^2\right)$$

$$6) \left(\frac{3}{4}x + 3\frac{3}{4}y\right)\left(1\frac{2}{7}x^2 - 1\frac{1}{2}xy - 2\frac{1}{2}y^2\right)$$

$$7) \left(2m - 1\frac{2}{3}n\right)\left(-n^2 + 1\frac{7}{8}m^2 + 3\frac{2}{7}mn\right)$$

$$8) \left(1\frac{6}{7}m - 1\frac{5}{7}n\right)\left(4\frac{1}{8}m^2 + 4\frac{3}{8}mn + 5\frac{1}{4}n^2\right)$$

$$9) \left(1\frac{1}{2}x + 3\frac{1}{6}y\right)\left(\frac{1}{5}x^2 + 2\frac{2}{3}xy + 2\frac{1}{2}y^2\right)$$

$$10) \left(-v + \frac{3}{4}u\right)\left(1\frac{4}{5}u^2 + 1\frac{1}{5}uv - 1\frac{1}{2}v^2\right)$$

$$11) \left(7y + 3\frac{2}{7}x\right)\left(1\frac{1}{4}x^2 + 2\frac{3}{4}xy - 3\frac{2}{3}y^2\right)$$

$$12) \left(-2y + 3\frac{4}{7}x\right)\left(4x^2 - 1\frac{4}{5}xy - 2\frac{6}{7}y^2\right)$$

$$13) \left(4\frac{5}{6}u + \frac{3}{4}v\right)\left(v^2 + u^2 - 1\frac{3}{7}uv\right)$$

$$14) \left(3\frac{5}{8}x - \frac{1}{2}y\right)\left(xy + 1\frac{1}{2}x^2 - 1\frac{2}{3}y^2\right)$$

$$15) \left(\frac{4}{7}x - 1\frac{3}{5}y\right)\left(x^2 - 1\frac{2}{5}xy + 1\frac{1}{5}y^2\right)$$

$$16) \left(\frac{3}{4}a - 1\frac{4}{7}b\right)\left(1\frac{1}{3}a^2 - 1\frac{7}{8}ab + 3\frac{5}{8}b^2\right)$$

$$17) \left(2\frac{3}{4}a + 1\frac{3}{4}b\right)\left(\frac{2}{5}a^2 - \frac{1}{2}ab - \frac{1}{2}b^2\right)$$

$$18) \left(\frac{1}{4}x + \frac{6}{7}y\right)\left(-3y^2 + 1\frac{1}{3}x^2 + 1\frac{1}{7}xy\right)$$

19) $\left(1\frac{3}{4}m + 3\frac{5}{8}n\right)\left(\frac{1}{3}m^2 + 1\frac{1}{2}mn + 4\frac{7}{8}n^2\right)$

20) $\left(1\frac{5}{8}x + \frac{1}{2}y\right)\left(2\frac{1}{3}x^2 - 1\frac{1}{3}xy + 1\frac{7}{8}y^2\right)$

21) $\left(m + 1\frac{1}{2}n\right)\left(2\frac{1}{5}m^2 - \frac{3}{4}mn + \frac{2}{3}n^2\right)$

22) $\left(-2n + \frac{1}{2}m\right)\left(4n^2 + 2mn + 1\frac{1}{3}m^2\right)$

23) $\left(4\frac{1}{2}x - 1\frac{1}{2}y\right)\left(x^2 - \frac{1}{6}xy + 4\frac{2}{3}y^2\right)$

24) $\left(x + 3\frac{1}{2}y\right)\left(y^2 + xy + 2\frac{3}{4}x^2\right)$

25) $\left(4\frac{3}{8}x - 1\frac{1}{2}y\right)\left(1\frac{1}{2}x^2 + 4\frac{3}{5}xy - 1\frac{6}{7}y^2\right)$

26) $\left(2\frac{4}{5}x - \frac{1}{6}y\right)\left(2y^2 + \frac{1}{4}x^2 + 1\frac{7}{8}xy\right)$

27) $\left(6\frac{1}{8}u - 1\frac{1}{2}v\right)\left(\frac{1}{5}u^2 + 4\frac{2}{3}uv + 1\frac{1}{2}v^2\right)$

28) $\left(4\frac{1}{5}x + 2\frac{1}{2}y\right)\left(1\frac{1}{2}x^2 + \frac{1}{2}xy + \frac{1}{3}y^2\right)$

29) $\left(1\frac{1}{2}u + 1\frac{3}{5}v\right)\left(6\frac{5}{6}u^2 + 1\frac{4}{5}uv + 4\frac{1}{2}v^2\right)$

30) $\left(2a - \frac{1}{2}b\right)\left(-ab + 2\frac{1}{2}a^2 + 4\frac{1}{6}b^2\right)$

31) $\left(3\frac{2}{5}x + 1\frac{2}{5}y\right)\left(1\frac{2}{3}x^2 - 1\frac{1}{4}xy - 3\frac{2}{3}y^2\right)$

32) $\left(1\frac{3}{5}x - 1\frac{1}{5}y\right)\left(-5y^2 + 1\frac{7}{8}x^2 - 2\frac{1}{2}xy\right)$

33) $\left(\frac{1}{2}a + 1\frac{1}{7}b\right)\left(1\frac{2}{5}a^2 - 3\frac{3}{5}ab - \frac{1}{7}b^2\right)$

34) $\left(6n + 3\frac{1}{2}m\right)\left(-n^2 - nm + 3\frac{3}{4}m^2\right)$

35) $\left(2n + 1\frac{1}{2}m\right)\left(n^2 + 3\frac{1}{8}m^2 + 1\frac{1}{7}mn\right)$

36) $\left(1\frac{4}{5}x - 3\frac{2}{3}y\right)\left(1\frac{3}{5}x^2 - \frac{2}{3}xy - 1\frac{1}{4}y^2\right)$

37) $\left(\frac{1}{3}x + 1\frac{1}{8}y\right)\left(-2xy + 1\frac{2}{3}x^2 + \frac{3}{4}y^2\right)$

38) $\left(3\frac{5}{6}x + 4\frac{3}{5}y\right)\left(\frac{1}{2}x^2 - 1\frac{2}{3}xy - \frac{3}{4}y^2\right)$

39) $\left(2\frac{1}{2}m + 1\frac{1}{2}n\right)\left(2m^2 + \frac{1}{2}mn - 1\frac{1}{6}n^2\right)$

40) $\left(\frac{2}{3}x + 1\frac{3}{4}y\right)\left(1\frac{1}{2}x^2 + 4\frac{1}{5}xy - 4\frac{5}{6}y^2\right)$

41) $\left(3\frac{1}{6}u + \frac{3}{4}v\right)\left(1\frac{3}{4}u^2 + 1\frac{1}{3}uv + 1\frac{4}{7}v^2\right)$

42) $\left(4\frac{1}{2}x - \frac{1}{3}y\right)\left(\frac{1}{5}x^2 + 1\frac{1}{2}xy - 2\frac{5}{6}y^2\right)$

43) $\left(2v + \frac{1}{7}u\right)\left(-v^2 + 1\frac{7}{8}u^2 + \frac{3}{4}uv\right)$

44) $\left(-y + 4\frac{2}{3}x\right)\left(2\frac{4}{7}x^2 - 1\frac{1}{2}xy + \frac{3}{8}y^2\right)$

45) $\left(\frac{1}{2}a + 1\frac{3}{4}b\right)\left(1\frac{3}{4}a^2 + 4\frac{1}{2}ab - 2\frac{3}{7}b^2\right)$

46) $\left(2\frac{1}{3}x + 1\frac{2}{5}y\right)\left(2x^2 - \frac{1}{4}xy + 1\frac{1}{4}y^2\right)$

47) $\left(1\frac{1}{7}a - 2\frac{1}{3}b\right)\left(-2b^2 + \frac{5}{7}a^2 - \frac{3}{4}ab\right)$

48) $\left(2x - 2\frac{1}{2}y\right)\left(3y^2 + 1\frac{1}{2}x^2 + 1\frac{1}{4}xy\right)$

49) $\left(\frac{1}{6}m + 3\frac{5}{6}n\right)\left(\frac{1}{4}m^2 + 4\frac{1}{2}mn - \frac{6}{7}n^2\right)$

50) $\left(\frac{1}{3}x + \frac{6}{7}y\right)\left(-2xy + 4\frac{3}{8}x^2 - 1\frac{4}{5}y^2\right)$

51) $\left(2x + 3\frac{3}{4}y\right)\left(1\frac{1}{3}x^2 - 1\frac{1}{2}xy - 3\frac{5}{6}y^2\right)$

52) $\left(-n + 2\frac{6}{7}m\right)\left(2n^2 + \frac{2}{5}m^2 + \frac{1}{3}mn\right)$

53) $\left(-6n + 1\frac{1}{7}m\right)\left(\frac{1}{3}m^2 + 4\frac{1}{4}mn + 4\frac{1}{7}n^2\right)$

54) $\left(8\frac{3}{4}x - \frac{1}{4}y\right)\left(x^2 + 1\frac{2}{5}xy + 3\frac{3}{4}y^2\right)$

55) $\left(4\frac{1}{4}u - 3\frac{1}{7}v\right)\left(5v^2 + 3\frac{3}{4}u^2 - 3\frac{3}{5}uv\right)$

56) $\left(y + 1\frac{5}{7}x\right)\left(\frac{2}{5}x^2 + 1\frac{2}{5}xy + 2\frac{4}{5}y^2\right)$

57) $\left(1\frac{4}{7}x - 1\frac{3}{5}y\right)\left(1\frac{1}{6}x^2 - 2\frac{5}{6}xy + 4\frac{1}{2}y^2\right)$

58) $\left(-7y + 1\frac{7}{8}x\right)\left(1\frac{5}{7}x^2 + \frac{1}{3}xy - \frac{1}{7}y^2\right)$

59) $\left(4\frac{3}{4}u - 1\frac{2}{3}v\right)\left(1\frac{3}{4}u^2 + 2\frac{5}{7}uv - 3\frac{1}{6}v^2\right)$

60) $\left(b + \frac{1}{4}a\right)\left(b^2 + \frac{5}{8}a^2 + \frac{1}{5}ab\right)$

61) $\left(3\frac{6}{7}x + \frac{1}{5}y\right)\left(8x^2 + 1\frac{5}{6}xy + 2\frac{3}{8}y^2\right)$

62) $\left(1\frac{3}{5}a + \frac{1}{6}b\right)\left(-b^2 + \frac{1}{7}a^2 - 1\frac{1}{4}ab\right)$

63) $\left(y + 4\frac{7}{8}x\right)\left(5\frac{1}{2}x^2 + 2xy - 2\frac{3}{8}y^2\right)$

64) $\left(-6n + \frac{3}{4}m\right)\left(2m^2 + \frac{1}{4}mn - 2\frac{3}{5}n^2\right)$

65) $\left(y + 3\frac{3}{8}x\right)\left(1\frac{1}{3}x^2 + 2\frac{5}{6}xy - 1\frac{1}{2}y^2\right)$

66) $\left(7m - 1\frac{5}{7}n\right)\left(-2n^2 + \frac{1}{2}m^2 - 2\frac{2}{7}mn\right)$

67) $\left(\frac{3}{4}x - 1\frac{1}{5}y\right)\left(2x^2 + 2\frac{5}{8}xy + 3\frac{5}{6}y^2\right)$

68) $\left(\frac{3}{8}x + \frac{5}{7}y\right)\left(xy + 4\frac{4}{5}x^2 + \frac{3}{4}y^2\right)$

69) $\left(2y + \frac{3}{5}x\right)\left(y^2 - 2xy + \frac{1}{6}x^2\right)$

70) $\left(2x + 1\frac{4}{5}y\right)\left(1\frac{3}{5}x^2 - 3\frac{1}{8}xy + \frac{3}{4}y^2\right)$

71) $\left(1\frac{5}{8}u + 1\frac{1}{3}v\right)\left(2\frac{1}{3}u^2 - 1\frac{4}{5}uv + 1\frac{3}{4}v^2\right)$

72) $\left(\frac{1}{5}x - 3\frac{5}{6}y\right)\left(\frac{1}{4}x^2 - 1\frac{1}{4}xy - 1\frac{2}{3}y^2\right)$

73) $\left(1\frac{1}{2}u - 3\frac{1}{6}v\right)\left(3\frac{1}{4}u^2 - 2\frac{2}{3}uv - \frac{1}{3}v^2\right)$

74) $\left(2\frac{4}{5}x + 3\frac{1}{5}y\right)\left(4\frac{7}{8}x^2 - \frac{3}{5}xy + 2\frac{1}{7}y^2\right)$

75) $\left(8\frac{1}{2}a - 1\frac{2}{3}b\right)\left(2\frac{1}{4}a^2 + 2\frac{5}{6}ab - \frac{1}{2}b^2\right)$

76) $\left(2\frac{2}{5}x - 1\frac{1}{5}y\right)\left(6x^2 + 1\frac{5}{6}xy + 1\frac{1}{4}y^2\right)$

77) $\left(1\frac{5}{6}x - 3\frac{3}{8}y\right)\left(3\frac{3}{7}x^2 - 1\frac{2}{5}xy - 1\frac{1}{5}y^2\right)$

78) $\left(1\frac{4}{5}a - 1\frac{1}{2}b\right)\left(2a^2 + \frac{2}{3}ab - \frac{4}{7}b^2\right)$

79) $\left(m - \frac{5}{7}n\right)\left(-2mn + 1\frac{4}{5}m^2 + 1\frac{1}{2}n^2\right)$

80) $\left(2\frac{1}{5}x - 1\frac{1}{4}y\right)\left(\frac{2}{5}x^2 + 4\frac{1}{6}xy + \frac{1}{8}y^2\right)$

81) $\left(x + \frac{1}{2}y\right)\left(1\frac{3}{4}x^2 - 2\frac{2}{3}xy - 3\frac{1}{2}y^2\right)$

82) $\left(1\frac{2}{3}m + 2\frac{1}{5}n\right)\left(2m^2 - \frac{2}{3}mn + 2\frac{1}{8}n^2\right)$

83) $\left(\frac{1}{2}x + 2\frac{5}{8}y\right)\left(2\frac{1}{3}x^2 + 1\frac{1}{2}xy + 1\frac{2}{3}y^2\right)$

84) $\left(1\frac{5}{6}x - 2\frac{5}{8}y\right)\left(x^2 - 3\frac{3}{4}xy - 2\frac{2}{3}y^2\right)$

85) $\left(1\frac{1}{3}x + 1\frac{1}{8}y\right)\left(\frac{3}{8}x^2 + \frac{6}{7}xy + 3\frac{5}{6}y^2\right)$

86) $\left(\frac{2}{3}u - 1\frac{1}{6}v\right)\left(2u^2 + 1\frac{1}{3}uv + 2\frac{3}{4}v^2\right)$

87) $\left(y + 6\frac{1}{2}x\right)\left(3\frac{4}{5}x^2 - 1\frac{2}{5}xy + \frac{1}{6}y^2\right)$

88) $\left(1\frac{1}{3}x - \frac{1}{2}y\right)\left(-5y^2 + 3\frac{3}{4}x^2 + 1\frac{3}{5}xy\right)$

89) $\left(4u + \frac{2}{3}v\right)\left(\frac{1}{2}u^2 - 1\frac{3}{7}uv + \frac{1}{2}v^2\right)$

90) $\left(4\frac{5}{6}a + 3\frac{5}{7}b\right)\left(4\frac{3}{4}a^2 + 3\frac{3}{5}ab + 1\frac{1}{2}b^2\right)$

91) $\left(8y + 1\frac{2}{3}x\right)\left(\frac{1}{6}x^2 + 3\frac{1}{2}xy + 1\frac{6}{7}y^2\right)$

92) $\left(y + 1\frac{1}{3}x\right)\left(\frac{4}{5}x^2 + 1\frac{2}{3}xy + 1\frac{2}{3}y^2\right)$

93) $\left(3\frac{3}{7}a - 3\frac{1}{3}b\right)\left(\frac{3}{8}a^2 + 4\frac{2}{5}ab + \frac{5}{6}b^2\right)$

94) $\left(m + 1\frac{1}{4}n\right)\left(1\frac{2}{7}m^2 + 2\frac{2}{7}mn + \frac{2}{5}n^2\right)$

95) $\left(2\frac{1}{3}x - 3\frac{1}{3}y\right)\left(\frac{1}{3}x^2 + \frac{1}{2}xy + \frac{2}{7}y^2\right)$

96) $\left(\frac{6}{7}m - \frac{3}{8}n\right)\left(2\frac{1}{4}m^2 + 2\frac{3}{5}mn + 1\frac{4}{5}n^2\right)$

97) $\left(2\frac{1}{4}x + 1\frac{5}{7}y\right)\left(2y^2 + 2x^2 + \frac{1}{5}xy\right)$

98) $\left(2\frac{1}{3}x + 1\frac{1}{3}y\right)\left(-2xy + \frac{3}{5}x^2 + \frac{1}{7}y^2\right)$

99) $\left(8x + 1\frac{1}{7}y\right)\left(1\frac{1}{7}x^2 - 3\frac{1}{5}xy + 4\frac{1}{7}y^2\right)$

100) $\left(\frac{4}{7}x + 2\frac{5}{8}y\right)\left(2x^2 + 1\frac{1}{3}xy + 1\frac{1}{3}y^2\right)$

101) $\left(2\frac{3}{4}x + 1\frac{1}{4}y\right)\left(4\frac{3}{8}x^2 + \frac{2}{3}xy + \frac{3}{8}y^2\right)$

102) $\left(1\frac{3}{8}u + \frac{9}{10}v\right)\left(5uv + \frac{1}{6}u^2 + 1\frac{1}{2}v^2\right)$

103) $\left(2\frac{4}{7}x + 1\frac{5}{6}y\right)\left(12x^2 + 1\frac{1}{6}xy + 2\frac{3}{11}y^2\right)$

104) $\left(1\frac{1}{5}u - \frac{2}{3}v\right)\left(3uv + \frac{2}{3}u^2 - 2\frac{1}{4}v^2\right)$

105) $\left(1\frac{5}{6}a - 3\frac{3}{5}b\right)\left(2\frac{7}{12}a^2 + \frac{2}{9}ab - \frac{7}{9}b^2\right)$

106) $\left(\frac{4}{5}x + 6\frac{1}{2}y\right)\left(5\frac{1}{4}x^2 - 1\frac{3}{8}xy + 3\frac{1}{6}y^2\right)$

107) $\left(6m - 1\frac{3}{4}n\right)\left(\frac{3}{5}m^2 - \frac{2}{5}mn + \frac{1}{4}n^2\right)$

108) $\left(2\frac{5}{6}a - 3\frac{7}{12}b\right)\left(1\frac{3}{5}a^2 + 2\frac{1}{2}ab + \frac{5}{7}b^2\right)$

109) $\left(\frac{1}{2}x - 1\frac{9}{11}y\right)\left(-7y^2 + 4\frac{7}{12}x^2 - \frac{6}{7}xy\right)$

110) $\left(1\frac{5}{6}x + 2\frac{7}{12}y\right)\left(2\frac{2}{5}x^2 + \frac{3}{5}xy - \frac{5}{11}y^2\right)$

111) $\left(\frac{4}{5}x - 1\frac{3}{4}y\right)\left(6\frac{4}{5}x^2 - 7\frac{3}{5}xy + \frac{7}{8}y^2\right)$

112) $\left(6\frac{11}{12}m + 1\frac{5}{12}n\right)\left(\frac{5}{8}m^2 - 2\frac{4}{11}mn + \frac{2}{3}n^2\right)$

113) $\left(3y + 6\frac{7}{8}x\right)\left(3\frac{1}{2}x^2 + \frac{2}{3}xy + 1\frac{1}{3}y^2\right)$

114) $\left(3\frac{1}{12}x + 1\frac{11}{12}y\right)\left(x^2 + xy - 2\frac{1}{3}y^2\right)$

115) $\left(1\frac{3}{7}x + 3\frac{1}{3}y\right)\left(y^2 + \frac{7}{9}x^2 + 4\frac{7}{11}xy\right)$

116) $\left(\frac{1}{3}u - \frac{1}{8}v\right)\left(6uv + 1\frac{2}{3}u^2 + \frac{1}{2}v^2\right)$

117) $\left(\frac{1}{4}u + 5\frac{9}{11}v\right)\left(2uv + \frac{2}{3}u^2 - 3\frac{5}{7}v^2\right)$

118) $\left(3\frac{4}{11}x - 1\frac{3}{5}y\right)\left(2x^2 - 3\frac{1}{3}xy + \frac{1}{3}y^2\right)$

119) $\left(5\frac{1}{2}x - 3\frac{3}{7}y\right)\left(5\frac{1}{12}x^2 - 1\frac{1}{11}xy - 3\frac{7}{8}y^2\right)$

120) $\left(5\frac{7}{12}a + 5\frac{5}{8}b\right)\left(\frac{2}{3}a^2 + 3\frac{2}{5}ab - \frac{1}{6}b^2\right)$

121) $\left(2a + 3\frac{1}{5}b\right)\left(\frac{1}{3}a^2 + \frac{1}{2}ab - 3\frac{1}{3}b^2\right)$

122) $\left(\frac{1}{3}x + 5\frac{1}{4}y\right)\left(\frac{5}{6}x^2 - 1\frac{4}{5}xy - 2\frac{4}{5}y^2\right)$

123) $\left(x + \frac{1}{2}y\right)\left(3\frac{5}{11}x^2 + \frac{5}{6}xy - 1\frac{3}{5}y^2\right)$

124) $\left(5\frac{2}{5}m + \frac{8}{9}n\right)\left(\frac{1}{4}m^2 - 2\frac{3}{8}mn + 4\frac{4}{7}n^2\right)$

125) $\left(\frac{2}{3}x - 1\frac{2}{3}y\right)\left(2x^2 + 1\frac{2}{3}xy - 1\frac{1}{5}y^2\right)$

126) $\left(1\frac{1}{8}m + 4\frac{1}{2}n\right)\left(2\frac{1}{12}m^2 - 1\frac{5}{9}mn + 2\frac{3}{7}n^2\right)$

127) $\left(1\frac{1}{2}x - 2\frac{1}{6}y\right)\left(-xy + 3\frac{7}{12}x^2 + 5\frac{1}{4}y^2\right)$

128) $\left(2\frac{3}{8}x + 6\frac{1}{9}y\right)\left(1\frac{3}{8}x^2 - 1\frac{2}{3}xy - 2\frac{4}{5}y^2\right)$

129) $\left(\frac{10}{11}x - 1\frac{1}{5}y\right)\left(3\frac{1}{2}x^2 + \frac{2}{3}xy + \frac{5}{6}y^2\right)$

130) $\left(6\frac{7}{10}u + \frac{7}{10}v\right)\left(-v^2 + 5\frac{5}{6}vu + u^2\right)$

131) $\left(x + 4\frac{1}{3}y\right)\left(\frac{3}{5}x^2 - \frac{1}{2}xy + 3\frac{4}{11}y^2\right)$

132) $\left(\frac{1}{2}u + 1\frac{3}{11}v\right)\left(2\frac{9}{10}u^2 + 6\frac{1}{9}uv + 5\frac{1}{2}v^2\right)$

133) $\left(\frac{4}{7}x - 2\frac{10}{11}y\right)\left(2\frac{1}{4}x^2 - \frac{1}{2}xy + 6\frac{7}{10}y^2\right)$

134) $\left(1\frac{3}{5}a + \frac{6}{7}b\right)\left(2\frac{1}{2}a^2 + 3\frac{7}{9}ab + 6\frac{7}{8}b^2\right)$

135) $\left(1\frac{8}{9}x - \frac{1}{3}y\right)\left(\frac{1}{10}x^2 - 1\frac{5}{8}xy + \frac{3}{5}y^2\right)$

136) $\left(6\frac{1}{2}x + 5\frac{3}{4}y\right)\left(\frac{1}{3}x^2 + \frac{1}{4}xy - 1\frac{1}{8}y^2\right)$

137) $\left(\frac{7}{8}a - 1\frac{1}{4}b\right)\left(5b^2 + 1\frac{5}{8}a^2 + 1\frac{3}{7}ab\right)$

138) $\left(1\frac{2}{3}m + 3\frac{5}{12}n\right)\left(2m^2 + \frac{4}{9}mn - 3\frac{7}{8}n^2\right)$

139) $\left(5\frac{3}{4}x - \frac{1}{3}y\right)\left(2x^2 + 3\frac{5}{6}xy + 4\frac{1}{8}y^2\right)$

140) $\left(3\frac{2}{3}m - 1\frac{1}{11}n\right)\left(2n^2 + 3\frac{2}{7}m^2 + 3\frac{1}{3}mn\right)$

141) $\left(\frac{7}{8}x + 5\frac{1}{11}y\right)\left(6x^2 + 6\frac{1}{2}xy - 2\frac{1}{12}y^2\right)$

142) $\left(\frac{10}{11}x + \frac{5}{8}y\right)\left(5\frac{1}{3}x^2 + 4\frac{1}{7}xy + 1\frac{1}{6}y^2\right)$

143) $\left(\frac{5}{7}x + 1\frac{6}{7}y\right)\left(3\frac{1}{2}x^2 + 1\frac{7}{9}xy + 4\frac{7}{10}y^2\right)$

144) $\left(\frac{1}{3}x - 1\frac{1}{6}y\right)\left(-xy + 2\frac{2}{3}x^2 + 6\frac{1}{7}y^2\right)$

145) $\left(4\frac{1}{10}x + 3\frac{5}{8}y\right)\left(1\frac{5}{6}x^2 + 1\frac{1}{4}xy + \frac{4}{9}y^2\right)$

146) $\left(3\frac{1}{6}u + \frac{1}{4}v\right)\left(2u^2 - \frac{5}{7}uv - 1\frac{1}{2}v^2\right)$

147) $\left(\frac{1}{2}x + \frac{1}{2}y\right)\left(6\frac{1}{3}x^2 - 1\frac{1}{4}xy - 2\frac{4}{11}y^2\right)$

148) $\left(5\frac{4}{9}u + \frac{1}{6}v\right)\left(3\frac{3}{8}u^2 - \frac{1}{4}uv + 1\frac{1}{2}v^2\right)$

149) $\left(3\frac{2}{5}x + 1\frac{4}{7}y\right)\left(1\frac{2}{5}x^2 - 3\frac{1}{7}xy - \frac{1}{2}y^2\right)$

150) $\left(1\frac{1}{2}a + \frac{5}{6}b\right)\left(-ab + 5\frac{4}{7}a^2 - \frac{1}{2}b^2\right)$

151) $\left(\frac{1}{12}a + 6\frac{5}{8}b\right)\left(5\frac{6}{11}a^2 + 4\frac{1}{3}ab + \frac{5}{6}b^2\right)$

152) $\left(5\frac{3}{8}x + 1\frac{7}{8}y\right)\left(2x^2 - 2\frac{2}{7}xy + \frac{4}{5}y^2\right)$

153) $\left(\frac{3}{11}x + \frac{4}{9}y\right)\left(6\frac{7}{10}x^2 + 1\frac{1}{3}xy + 2\frac{5}{12}y^2\right)$

154) $\left(5\frac{3}{10}m - 11\frac{3}{11}n\right)\left(3\frac{6}{7}m^2 - \frac{5}{6}mn + 1\frac{1}{9}n^2\right)$

155) $\left(1\frac{6}{7}m - \frac{1}{3}n\right)\left(2\frac{1}{3}m^2 - 1\frac{1}{3}mn - 1\frac{7}{8}n^2\right)$

156) $\left(1\frac{1}{2}x + \frac{1}{2}y\right)\left(\frac{2}{11}x^2 + 4\frac{1}{3}xy - 1\frac{1}{2}y^2\right)$

157) $\left(1\frac{1}{6}x - 1\frac{2}{5}y\right)\left(\frac{2}{3}x^2 - \frac{8}{9}xy + 2\frac{3}{10}y^2\right)$

158) $\left(2\frac{3}{5}x + \frac{2}{3}y\right)\left(\frac{5}{7}x^2 + 4\frac{2}{3}xy + 1\frac{2}{9}y^2\right)$

159) $\left(\frac{1}{3}x + 1\frac{1}{2}y\right)\left(\frac{7}{12}x^2 + 2\frac{1}{2}xy + 1\frac{3}{4}y^2\right)$

160) $\left(12x + 1\frac{1}{3}y\right)\left(6\frac{4}{5}x^2 - 2\frac{5}{6}xy + 3\frac{1}{2}y^2\right)$

161) $\left(v + 3\frac{1}{2}u\right)\left(-10v^2 + u^2 - \frac{1}{2}uv\right)$

162) $\left(2x + 1\frac{2}{3}y\right)\left(2x^2 - 3\frac{4}{5}xy + \frac{2}{3}y^2\right)$

163) $\left(1\frac{1}{12}x + 1\frac{4}{11}y\right)\left(2x^2 - 3\frac{5}{6}xy + 4\frac{4}{7}y^2\right)$

164) $\left(1\frac{2}{5}u + 1\frac{1}{2}v\right)\left(\frac{2}{3}u^2 - 1\frac{6}{11}uv - 1\frac{2}{5}v^2\right)$

165) $\left(\frac{5}{8}a - \frac{2}{3}b\right)\left(1\frac{4}{7}a^2 + \frac{1}{4}ab + 3\frac{5}{6}b^2\right)$

166) $\left(\frac{1}{2}x + \frac{2}{9}y\right)\left(4\frac{11}{12}x^2 - 1\frac{2}{5}xy - 3\frac{5}{7}y^2\right)$

167) $\left(2b + 1\frac{10}{11}a\right)\left(4\frac{9}{10}a^2 - 1\frac{1}{4}ab + 2\frac{4}{9}b^2\right)$

168) $\left(2m + 6\frac{1}{5}n\right)\left(-n^2 + \frac{1}{3}m^2 - 1\frac{7}{10}mn\right)$

169) $\left(3x + 5\frac{5}{9}y\right)\left(1\frac{2}{3}x^2 + 5\frac{1}{4}xy - 1\frac{2}{11}y^2\right)$

170) $\left(1\frac{1}{7}x + 1\frac{1}{3}y\right)\left(-xy + 1\frac{5}{7}x^2 + 3\frac{1}{6}y^2\right)$

171) $\left(1\frac{1}{6}m - \frac{1}{3}n\right)\left(m^2 - 3\frac{1}{2}mn - \frac{8}{11}n^2\right)$

172) $\left(5\frac{1}{2}x + \frac{9}{10}y\right)\left(5x^2 - 3\frac{3}{4}xy - 3\frac{4}{7}y^2\right)$

173) $\left(-y + 1\frac{1}{6}x\right)\left(2xy + 4\frac{1}{4}x^2 + 5\frac{1}{8}y^2\right)$

174) $\left(-y + 3\frac{4}{9}x\right)\left(2y^2 + 2\frac{7}{10}x^2 + 5\frac{1}{8}xy\right)$

175) $\left(4\frac{7}{12}x + 5\frac{1}{4}y\right)\left(x^2 - 3\frac{10}{11}xy - 1\frac{4}{11}y^2\right)$

176) $\left(\frac{1}{2}u + 1\frac{1}{6}v\right)\left(1\frac{2}{9}u^2 + 5\frac{8}{11}uv - 1\frac{2}{9}v^2\right)$

177) $\left(2v + 1\frac{5}{12}u\right)\left(3\frac{1}{4}u^2 + 5\frac{1}{6}uv + 1\frac{2}{7}v^2\right)$

178) $\left(5\frac{2}{5}x + \frac{1}{5}y\right)\left(3\frac{3}{10}x^2 - \frac{4}{5}xy - \frac{7}{10}y^2\right)$

179) $\left(5\frac{3}{4}a - 2\frac{3}{8}b\right)\left(1\frac{1}{8}a^2 + \frac{7}{12}ab - 1\frac{4}{5}b^2\right)$

180) $\left(\frac{3}{7}x - 1\frac{1}{2}y\right)\left(\frac{2}{5}x^2 - 1\frac{3}{5}xy - 2\frac{2}{3}y^2\right)$

181) $\left(\frac{1}{8}x + 3\frac{5}{6}y\right)\left(3\frac{3}{10}x^2 - 2\frac{1}{2}xy + 6\frac{1}{12}y^2\right)$

182) $\left(1\frac{5}{6}a - 1\frac{7}{8}b\right)\left(4\frac{1}{3}a^2 - 1\frac{5}{8}ab - 1\frac{1}{6}b^2\right)$

183) $\left(4\frac{2}{3}x + 1\frac{4}{9}y\right)\left(9x^2 - 4\frac{3}{4}xy - \frac{10}{11}y^2\right)$

184) $\left(1\frac{1}{5}m - \frac{1}{2}n\right)\left(\frac{1}{5}m^2 + 1\frac{1}{3}mn + 5\frac{7}{12}n^2\right)$

185) $\left(1\frac{5}{6}x - \frac{1}{5}y\right)\left(5\frac{5}{6}x^2 + 1\frac{5}{11}xy + 2\frac{6}{7}y^2\right)$

186) $\left(\frac{5}{12}m + 1\frac{2}{3}n\right)\left(4\frac{1}{3}m^2 + \frac{1}{5}mn - 2\frac{1}{4}n^2\right)$

187) $\left(11y + \frac{8}{9}x\right)\left(-8y^2 + 4\frac{9}{10}x^2 + 2\frac{11}{12}xy\right)$

188) $\left(4\frac{3}{5}x + 1\frac{1}{2}y\right)\left(5\frac{4}{9}x^2 - \frac{5}{9}xy - 3\frac{7}{8}y^2\right)$

189) $\left(\frac{5}{12}x - 2\frac{1}{10}y\right)\left(\frac{1}{3}x^2 + 3\frac{1}{4}xy - 3\frac{4}{5}y^2\right)$

190) $\left(6\frac{5}{8}x - 1\frac{1}{4}y\right)\left(10x^2 - \frac{3}{5}xy + 5\frac{2}{3}y^2\right)$

191) $\left(1\frac{1}{5}u + 6\frac{4}{7}v\right)\left(4\frac{4}{9}u^2 - 1\frac{7}{10}uv - 1\frac{7}{9}v^2\right)$

192) $\left(1\frac{5}{11}x + \frac{4}{5}y\right)\left(2x^2 - \frac{1}{3}xy - 3\frac{5}{6}y^2\right)$

193) $\left(\frac{7}{8}u - \frac{1}{4}v\right)\left(5\frac{3}{5}u^2 - \frac{1}{7}uv + 6\frac{2}{3}v^2\right)$

194) $\left(1\frac{9}{10}a - 1\frac{1}{4}b\right)\left(-2ab + 5\frac{3}{5}a^2 + 1\frac{7}{12}b^2\right)$

195) $\left(3\frac{2}{3}x - 1\frac{2}{7}y\right)\left(1\frac{1}{4}x^2 + \frac{3}{8}xy - \frac{1}{2}y^2\right)$

196) $\left(2\frac{1}{2}a + 2\frac{3}{5}b\right)\left(-2ab + 6\frac{4}{5}a^2 + 1\frac{1}{2}b^2\right)$

197) $\left(\frac{3}{7}x - 2\frac{7}{12}y\right)\left(y^2 + x^2 - 11\frac{1}{8}xy\right)$

198) $\left(\frac{4}{9}x - 3\frac{5}{9}y\right)\left(\frac{3}{4}x^2 - \frac{1}{2}xy + \frac{4}{9}y^2\right)$

199) $\left(3\frac{1}{6}m + 2\frac{1}{10}n\right)\left(-5n^2 + 5\frac{3}{10}m^2 + 6\frac{1}{4}mn\right)$

200) $\left(-2y + \frac{1}{2}x\right)\left(1\frac{3}{5}x^2 + 2\frac{5}{12}xy - 1\frac{2}{3}y^2\right)$

201) $\left(1\frac{2}{3}x - \frac{4}{7}y\right)\left(-2xy + 1\frac{1}{3}x^2 + 1\frac{5}{6}y^2\right)$

202) $\left(1\frac{1}{2}m + 7\frac{15}{16}n\right)\left(1\frac{9}{13}m^2 + 1\frac{1}{15}mn + 10\frac{2}{13}n^2\right)$

203) $\left(20x + \frac{1}{2}y\right)\left(\frac{9}{19}x^2 - 1\frac{2}{11}xy + 10\frac{5}{6}y^2\right)$

204) $\left(3\frac{10}{19}x + 1\frac{1}{3}y\right)\left(8\frac{1}{12}x^2 + \frac{1}{8}xy + 9\frac{19}{20}y^2\right)$

205) $\left(-y + 4\frac{1}{4}x\right)\left(8\frac{5}{18}x^2 - \frac{7}{10}xy + \frac{1}{13}y^2\right)$

206) $\left(1\frac{1}{9}x + 3\frac{3}{4}y\right)\left(\frac{15}{16}x^2 + 4\frac{7}{10}xy - \frac{5}{11}y^2\right)$

207) $\left(1\frac{5}{7}u + \frac{14}{15}v\right)\left(2v^2 + 5\frac{13}{14}u^2 + 3\frac{1}{2}uv\right)$

208) $\left(1\frac{9}{10}u + 7\frac{9}{19}v\right)\left(1\frac{2}{5}u^2 + \frac{1}{5}uv + \frac{2}{5}v^2\right)$

209) $\left(1\frac{13}{15}a + 4\frac{9}{14}b\right)\left(\frac{8}{9}a^2 - \frac{4}{5}ab + 9\frac{2}{3}b^2\right)$

210) $\left(\frac{2}{5}x + 1\frac{7}{9}y\right)\left(-y^2 - 2xy + 6\frac{1}{2}x^2\right)$

211) $\left(1\frac{3}{8}a + 1\frac{8}{17}b\right)\left(1\frac{7}{11}a^2 + 1\frac{1}{5}ab + 8\frac{1}{3}b^2\right)$

212) $\left(1\frac{3}{11}x + 9\frac{10}{13}y\right)\left(2\frac{6}{7}x^2 + \frac{5}{8}xy + \frac{9}{20}y^2\right)$

213) $\left(8\frac{7}{9}m - 1\frac{1}{3}n\right)\left(-2mn + \frac{7}{13}m^2 + 5\frac{1}{2}n^2\right)$

214) $\left(\frac{2}{7}x + 8\frac{2}{3}y\right)\left(\frac{4}{5}x^2 + 10\frac{4}{5}xy + 2\frac{13}{17}y^2\right)$

215) $\left(2y + \frac{1}{4}x\right)\left(1\frac{1}{2}x^2 + 7\frac{5}{6}xy + 6\frac{9}{10}y^2\right)$

216) $\left(\frac{11}{16}m - \frac{1}{2}n\right)\left(1\frac{2}{9}m^2 + 2\frac{1}{10}mn + 1\frac{14}{15}n^2\right)$

217) $\left(7\frac{7}{8}x + 5\frac{1}{2}y\right)\left(1\frac{5}{8}x^2 - 1\frac{11}{13}xy + \frac{6}{17}y^2\right)$

218) $\left(7\frac{9}{13}x - \frac{2}{3}y\right)\left(1\frac{6}{7}x^2 + 1\frac{1}{2}xy - 1\frac{1}{2}y^2\right)$

219) $\left(\frac{7}{17}x - 1\frac{7}{8}y\right)\left(9\frac{9}{14}x^2 - 13\frac{1}{2}xy - 1\frac{2}{3}y^2\right)$

220) $\left(7\frac{10}{11}x - 2\frac{1}{20}y\right)\left(1\frac{1}{3}x^2 + 2\frac{6}{7}xy + \frac{2}{5}y^2\right)$

221) $\left(6\frac{5}{14}u - \frac{4}{9}v\right)\left(5v^2 + \frac{1}{2}u^2 + \frac{5}{16}uv\right)$

222) $\left(7\frac{7}{12}x + 9\frac{3}{7}y\right)\left(-y^2 + 9\frac{17}{18}x^2 + 5\frac{6}{7}xy\right)$

223) $\left(u - 1\frac{2}{3}v\right)\left(20\frac{6}{13}u^2 + 1\frac{8}{13}uv + 1\frac{7}{13}v^2\right)$

224) $\left(5\frac{13}{18}x + 1\frac{1}{7}y\right)\left(9\frac{13}{16}x^2 + 1\frac{2}{5}xy - \frac{9}{14}y^2\right)$

225) $\left(\frac{5}{8}a - 1\frac{7}{10}b\right)\left(5\frac{13}{15}a^2 + 9\frac{14}{15}ab - \frac{2}{5}b^2\right)$

226) $\left(\frac{7}{10}a - \frac{14}{19}b\right)\left(\frac{13}{19}a^2 + 8\frac{6}{11}ab + \frac{7}{10}b^2\right)$

227) $\left(3\frac{8}{13}x - 1\frac{1}{3}y\right)\left(7x^2 - xy - 1\frac{15}{19}y^2\right)$

228) $\left(\frac{1}{10}x + 3\frac{7}{18}y\right)\left(2x^2 - \frac{3}{5}xy + \frac{4}{13}y^2\right)$

229) $\left(3\frac{4}{17}m + 9\frac{11}{17}n\right)\left(1\frac{3}{10}m^2 + 1\frac{14}{19}mn + 7\frac{1}{12}n^2\right)$

230) $\left(3x + 10\frac{5}{16}y\right)\left(2x^2 + 1\frac{6}{11}xy - 1\frac{1}{14}y^2\right)$

231) $\left(1\frac{9}{14}x + \frac{1}{15}y\right)\left(2y^2 + \frac{5}{17}x^2 + 1\frac{6}{11}xy\right)$

232) $\left(5\frac{17}{18}x + 9\frac{11}{12}y\right)\left(\frac{3}{7}x^2 - \frac{7}{16}xy - 1\frac{1}{9}y^2\right)$

233) $\left(2\frac{1}{5}m + \frac{5}{7}n\right)\left(\frac{11}{17}m^2 - \frac{7}{17}mn - \frac{3}{8}n^2\right)$

234) $\left(\frac{3}{16}x - 1\frac{11}{12}y\right)\left(-4xy + 4\frac{13}{18}x^2 + \frac{5}{18}y^2\right)$

235) $\left(1\frac{1}{3}x + 10\frac{1}{9}y\right)\left(9y^2 + 5\frac{3}{19}x^2 - \frac{5}{8}xy\right)$

236) $\left(10\frac{2}{3}u - 2\frac{1}{2}v\right)\left(-14v^2 + 6\frac{3}{8}u^2 + 7\frac{3}{5}uv\right)$

237) $\left(\frac{11}{19}x + 1\frac{5}{9}y\right)\left(-xy + 6\frac{2}{3}x^2 + 1\frac{4}{5}y^2\right)$

238) $\left(9\frac{3}{17}u - 1\frac{11}{18}v\right)\left(7u^2 - 1\frac{1}{16}uv + 3\frac{1}{2}v^2\right)$

239) $\left(2a + 6\frac{13}{14}b\right)\left(-5b^2 + 9\frac{2}{3}a^2 + 1\frac{2}{5}ab\right)$

240) $\left(5\frac{1}{2}x + 8\frac{2}{7}y\right)\left(3\frac{1}{10}x^2 - 1\frac{8}{9}xy + 1\frac{6}{7}y^2\right)$

241) $\left(1\frac{4}{9}a + 1\frac{3}{4}b\right)\left(15b^2 + \frac{2}{7}a^2 - \frac{1}{3}ab\right)$

242) $\left(1\frac{3}{7}x - \frac{15}{16}y\right)\left(2\frac{7}{15}x^2 + 8\frac{1}{2}xy + 7\frac{1}{5}y^2\right)$

243) $\left(\frac{1}{2}m - 3\frac{2}{9}n\right)\left(-mn + 1\frac{4}{7}m^2 + \frac{5}{16}n^2\right)$

244) $\left(6\frac{1}{3}x - 1\frac{5}{9}y\right)\left(\frac{2}{3}x^2 + \frac{1}{4}xy + \frac{1}{3}y^2\right)$

245) $\left(8\frac{5}{12}m + 3\frac{1}{16}n\right)\left(-n^2 + \frac{12}{13}m^2 + \frac{2}{5}mn\right)$

246) $\left(1\frac{7}{8}x + \frac{1}{4}y\right)\left(-19xy + \frac{17}{18}x^2 - 1\frac{7}{8}y^2\right)$

247) $\left(-5y + 4\frac{1}{7}x\right)\left(\frac{1}{5}x^2 + 6\frac{1}{4}xy + 9\frac{6}{13}y^2\right)$

248) $\left(x + 1\frac{1}{6}y\right)\left(1\frac{9}{17}x^2 + 10\frac{5}{6}xy + 1\frac{7}{13}y^2\right)$

249) $\left(3\frac{1}{4}x + 3\frac{1}{9}y\right)\left(1\frac{3}{10}x^2 - 1\frac{9}{14}xy + 9\frac{16}{17}y^2\right)$

250) $\left(4\frac{3}{14}x + \frac{3}{4}y\right)\left(4\frac{1}{12}x^2 - \frac{8}{9}xy - \frac{7}{11}y^2\right)$

251) $\left(1\frac{2}{11}u - 3\frac{7}{12}v\right)\left(1\frac{3}{8}u^2 + 7\frac{4}{11}uv + 1\frac{11}{12}v^2\right)$

252) $\left(3\frac{3}{8}x + 1\frac{6}{13}y\right)\left(\frac{2}{13}x^2 - \frac{1}{3}xy + \frac{1}{4}y^2\right)$

253) $\left(3\frac{2}{5}u - \frac{1}{2}v\right)\left(8\frac{3}{11}u^2 - \frac{5}{7}uv + 9\frac{7}{20}v^2\right)$

254) $\left(1\frac{4}{15}x + 7\frac{4}{9}y\right)\left(\frac{1}{19}x^2 - \frac{1}{15}xy - 1\frac{1}{6}y^2\right)$

255) $\left(2\frac{11}{12}a + \frac{6}{17}b\right)\left(\frac{1}{2}a^2 - 1\frac{3}{4}ab - 3\frac{14}{15}b^2\right)$

$$256) \left(14\frac{2}{9}x + 9\frac{5}{18}y\right)\left(\frac{1}{11}x^2 + \frac{2}{3}xy + 1\frac{1}{2}y^2\right)$$

$$257) \left(\frac{6}{7}a + 6\frac{1}{5}b\right)\left(-b^2 + 5\frac{1}{2}a^2 + 4\frac{5}{16}ab\right)$$

$$258) \left(3\frac{3}{16}x + \frac{5}{16}y\right)\left(y^2 + \frac{4}{9}x^2 + 2\frac{11}{15}xy\right)$$

$$259) \left(10\frac{8}{11}x - \frac{11}{12}y\right)\left(1\frac{3}{20}x^2 + 4\frac{2}{3}xy + 4\frac{1}{2}y^2\right)$$

$$260) \left(-5n + \frac{3}{13}m\right)\left(10\frac{7}{12}m^2 + 7\frac{13}{14}mn - 2\frac{16}{17}n^2\right)$$

$$261) \left(\frac{3}{4}m + 2\frac{7}{12}n\right)\left(4\frac{4}{5}m^2 + 1\frac{1}{18}mn - 3\frac{2}{5}n^2\right)$$

$$262) \left(9\frac{13}{15}x + 7\frac{2}{7}y\right)\left(10\frac{17}{18}x^2 - 3\frac{5}{18}xy + 4\frac{5}{6}y^2\right)$$

$$263) \left(1\frac{10}{17}x - \frac{4}{5}y\right)\left(x^2 + 6\frac{13}{16}xy - \frac{1}{9}y^2\right)$$

$$264) \left(2\frac{1}{2}x + 6\frac{3}{10}y\right)\left(6\frac{1}{3}x^2 + 1\frac{17}{20}xy - 1\frac{3}{8}y^2\right)$$

$$265) \left(\frac{1}{2}x - 1\frac{7}{8}y\right)\left(\frac{2}{3}x^2 + 3\frac{5}{6}xy + \frac{1}{4}y^2\right)$$

$$266) \left(\frac{3}{19}u + \frac{3}{5}v\right)\left(u^2 - \frac{10}{13}uv + 7\frac{1}{2}v^2\right)$$

$$267) \left(1\frac{13}{16}x - 2\frac{5}{7}y\right)\left(2x^2 + 2\frac{1}{12}xy - \frac{8}{9}y^2\right)$$

$$268) \left(\frac{3}{4}x + \frac{4}{5}y\right)\left(2y^2 + 6\frac{6}{7}x^2 + 2\frac{9}{14}xy\right)$$

$$269) \left(6\frac{1}{13}u + 5\frac{3}{5}v\right)\left(1\frac{1}{2}u^2 + \frac{2}{3}uv - 3\frac{1}{7}v^2\right)$$

$$270) \left(8\frac{1}{20}a - 1\frac{6}{19}b\right)\left(8\frac{3}{4}a^2 + 2\frac{13}{18}ab - 3\frac{12}{19}b^2\right)$$

$$271) \left(1\frac{11}{17}x + 7\frac{1}{11}y\right)\left(\frac{9}{14}x^2 + 5\frac{10}{11}xy + \frac{6}{17}y^2\right)$$

$$272) \left(5\frac{5}{14}a + 9\frac{9}{10}b\right)\left(1\frac{7}{8}a^2 - \frac{3}{4}ab + 6\frac{3}{4}b^2\right)$$

$$273) \left(2m - 2\frac{6}{7}n\right)\left(1\frac{1}{13}m^2 - 1\frac{5}{11}mn + 1\frac{2}{11}n^2\right)$$

$$274) \left(2x + 1\frac{1}{8}y\right)\left(5\frac{6}{13}x^2 + 3\frac{1}{14}xy + 4\frac{17}{18}y^2\right)$$

275) $\left(5\frac{7}{18}x + 3\frac{10}{17}y\right)\left(\frac{7}{11}x^2 + \frac{4}{5}xy + 5\frac{9}{10}y^2\right)$

276) $\left(\frac{1}{9}m - \frac{2}{5}n\right)\left(3\frac{4}{11}m^2 + 1\frac{1}{4}mn - 1\frac{2}{5}n^2\right)$

277) $\left(2x - 2\frac{1}{2}y\right)\left(\frac{3}{5}x^2 + 6\frac{10}{11}xy + 4\frac{4}{9}y^2\right)$

278) $\left(1\frac{19}{20}x + 2\frac{1}{2}y\right)\left(12\frac{7}{9}x^2 - 19\frac{3}{17}xy + 8\frac{5}{6}y^2\right)$

279) $\left(1\frac{5}{6}x + 3\frac{2}{9}y\right)\left(\frac{4}{5}x^2 + 5\frac{5}{16}xy - 2\frac{1}{6}y^2\right)$

280) $\left(y + 5\frac{9}{10}x\right)\left(1\frac{4}{9}x^2 + 8\frac{1}{6}xy + \frac{1}{10}y^2\right)$

281) $\left(16u + 10\frac{7}{17}v\right)\left(7\frac{2}{3}u^2 + \frac{3}{4}uv - \frac{5}{6}v^2\right)$

282) $\left(2u + \frac{14}{17}v\right)\left(2u^2 + 3\frac{5}{11}uv + 10\frac{1}{11}v^2\right)$

283) $\left(1\frac{1}{5}x + 7\frac{2}{7}y\right)\left(1\frac{2}{3}x^2 - 3\frac{3}{8}xy + 8\frac{1}{6}y^2\right)$

284) $\left(13x - \frac{5}{14}y\right)\left(1\frac{9}{10}x^2 + 5\frac{8}{11}xy - \frac{5}{13}y^2\right)$

285) $\left(1\frac{5}{6}x + \frac{3}{4}y\right)\left(-19xy + 1\frac{1}{14}x^2 - 1\frac{7}{8}y^2\right)$

286) $\left(9\frac{1}{3}a - \frac{7}{20}b\right)\left(1\frac{1}{2}a^2 - 3\frac{12}{17}ab + 1\frac{3}{8}b^2\right)$

287) $\left(2a + 1\frac{4}{5}b\right)\left(-13b^2 + 1\frac{3}{8}a^2 - \frac{3}{19}ab\right)$

288) $\left(x + 6\frac{1}{20}y\right)\left(1\frac{6}{7}x^2 - 1\frac{2}{5}xy + 2\frac{7}{9}y^2\right)$

289) $\left(1\frac{1}{10}m + 5\frac{8}{19}n\right)\left(1\frac{3}{5}m^2 + 6\frac{1}{14}mn + 1\frac{2}{7}n^2\right)$

290) $\left(7\frac{5}{7}x - \frac{1}{6}y\right)\left(1\frac{9}{14}x^2 - \frac{2}{15}xy + 1\frac{12}{19}y^2\right)$

291) $\left(m - \frac{5}{8}n\right)\left(13mn + 3\frac{5}{7}m^2 + 7\frac{3}{10}n^2\right)$

292) $\left(6\frac{3}{14}x + 8\frac{13}{15}y\right)\left(-y^2 + 5\frac{7}{12}x^2 + 3\frac{4}{5}xy\right)$

293) $\left(\frac{3}{11}x + 1\frac{2}{7}y\right)\left(3\frac{9}{13}x^2 + \frac{7}{18}xy + 6\frac{1}{16}y^2\right)$

294) $\left(1\frac{3}{4}x + 5\frac{2}{5}y\right)\left(\frac{5}{6}x^2 + \frac{9}{14}xy + \frac{8}{9}y^2\right)$

295) $\left(4x + 1\frac{3}{20}y\right)\left(7\frac{8}{11}x^2 + 10\frac{6}{19}xy + \frac{1}{3}y^2\right)$

296) $\left(4\frac{1}{12}x - 1\frac{2}{5}y\right)\left(6\frac{13}{16}x^2 + 2\frac{8}{11}xy - \frac{13}{15}y^2\right)$

297) $\left(1\frac{2}{15}u - 1\frac{2}{3}v\right)\left(6v^2 + 9\frac{1}{18}u^2 + 8\frac{8}{9}uv\right)$

298) $\left(v + \frac{3}{5}u\right)\left(v^2 + \frac{7}{11}u^2 - 3\frac{1}{6}uv\right)$

299) $\left(3\frac{4}{19}x + 18\frac{14}{19}y\right)\left(7\frac{7}{16}x^2 - \frac{6}{7}xy + 1\frac{1}{2}y^2\right)$

300) $\left(\frac{3}{16}a + 2\frac{3}{17}b\right)\left(9\frac{2}{3}a^2 + 6\frac{11}{14}ab - 2\frac{4}{5}b^2\right)$

301) $\left(1\frac{43}{44}a - 1\frac{8}{13}b\right)\left(1\frac{27}{28}a^2 + 1\frac{17}{43}ab + \frac{24}{31}b^2\right)$

302) $\left(\frac{8}{9}x + \frac{13}{17}y\right)\left(\frac{16}{17}x^2 + 1\frac{4}{11}xy - \frac{9}{32}y^2\right)$

303) $\left(25\frac{13}{16}m + 15\frac{24}{41}n\right)\left(33m^2 - 2\frac{3}{4}mn + \frac{2}{9}n^2\right)$

304) $\left(\frac{35}{48}x - 3\frac{19}{42}y\right)\left(46x^2 + 25\frac{1}{5}xy + \frac{7}{19}y^2\right)$

305) $\left(9x + 1\frac{1}{4}y\right)\left(1\frac{11}{24}x^2 + 1\frac{3}{20}xy + 24\frac{5}{11}y^2\right)$

306) $\left(15\frac{1}{6}x + 1\frac{11}{40}y\right)\left(17\frac{1}{13}x^2 - 1\frac{3}{14}xy - \frac{6}{11}y^2\right)$

307) $\left(31\frac{1}{2}m - \frac{8}{15}n\right)\left(17\frac{29}{36}m^2 - \frac{15}{29}mn + 1\frac{16}{29}n^2\right)$

308) $\left(1\frac{2}{3}x - \frac{2}{11}y\right)\left(24\frac{30}{31}x^2 - \frac{5}{6}xy + 9\frac{3}{4}y^2\right)$

309) $\left(23\frac{34}{41}u + 12\frac{1}{14}v\right)\left(1\frac{6}{11}u^2 + 18\frac{47}{49}uv + 22\frac{5}{11}v^2\right)$

$$310) \left(1\frac{14}{45}x - 3\frac{11}{20}y\right)\left(15\frac{1}{3}x^2 + 14\frac{7}{11}xy + \frac{2}{21}y^2\right)$$

$$311) \left(8\frac{9}{14}u + 9\frac{3}{4}v\right)\left(1\frac{5}{8}u^2 + 4\frac{7}{23}uv + \frac{15}{34}v^2\right)$$

$$312) \left(\frac{12}{31}x + \frac{1}{2}y\right)\left(\frac{1}{12}x^2 - \frac{12}{13}xy - 3\frac{23}{40}y^2\right)$$

$$313) \left(1\frac{7}{12}u + 3\frac{4}{9}v\right)\left(1\frac{2}{5}u^2 + \frac{2}{3}uv + \frac{24}{31}v^2\right)$$

$$314) \left(8\frac{1}{4}x + 15\frac{8}{15}y\right)\left(\frac{13}{18}x^2 + 3\frac{11}{42}xy + 3\frac{5}{18}y^2\right)$$

$$315) \left(1\frac{13}{21}a + 1\frac{6}{11}b\right)\left(19\frac{39}{46}a^2 - \frac{5}{14}ab - 2\frac{4}{37}b^2\right)$$

$$316) \left(11x - 1\frac{1}{39}y\right)\left(7\frac{7}{36}x^2 + 8\frac{3}{10}xy - \frac{43}{48}y^2\right)$$

$$317) \left(1\frac{6}{7}a + \frac{38}{47}b\right)\left(12\frac{17}{36}a^2 - 1\frac{1}{29}ab + 1\frac{11}{24}b^2\right)$$

$$318) \left(25\frac{1}{11}x + 15\frac{24}{25}y\right)\left(23\frac{3}{5}x^2 - 1\frac{4}{39}xy + 1\frac{1}{2}y^2\right)$$

$$319) \left(\frac{3}{7}m + 6\frac{7}{24}n\right)\left(-21mn + 1\frac{41}{48}m^2 - \frac{10}{31}n^2\right)$$

$$320) \left(\frac{5}{23}x + 11\frac{17}{36}y\right)\left(-xy + 23\frac{3}{20}x^2 - \frac{1}{7}y^2\right)$$

$$321) \left(2\frac{3}{14}m + 1\frac{7}{8}n\right)\left(3\frac{29}{43}m^2 - 3\frac{5}{6}mn + 22\frac{6}{19}n^2\right)$$

$$322) \left(1\frac{11}{35}x + 2\frac{11}{26}y\right)\left(1\frac{13}{43}x^2 - 1\frac{9}{50}xy + 26\frac{7}{13}y^2\right)$$

$$323) \left(\frac{8}{9}x + 5\frac{2}{13}y\right)\left(20\frac{2}{9}x^2 + \frac{3}{31}xy - 1\frac{1}{2}y^2\right)$$

$$324) \left(\frac{1}{4}u - 1\frac{15}{38}v\right)\left(uv + 7\frac{27}{50}u^2 + \frac{7}{10}v^2\right)$$

$$325) \left(19\frac{3}{8}x + 21\frac{8}{47}y\right) \left(1\frac{12}{37}x^2 + 3\frac{1}{22}xy - \frac{2}{5}y^2\right)$$

$$326) \left(-y + \frac{42}{43}x\right) \left(\frac{1}{7}x^2 - 1\frac{15}{34}xy + 18\frac{25}{44}y^2\right)$$

$$327) \left(9\frac{22}{25}u + 4\frac{7}{11}v\right) \left(-2uv + 15\frac{37}{42}u^2 - 1\frac{42}{43}v^2\right)$$

$$328) \left(19\frac{3}{11}u + 25\frac{5}{14}v\right) \left(4\frac{3}{10}u^2 + 7\frac{29}{36}uv + 1\frac{29}{42}v^2\right)$$

$$329) \left(9\frac{11}{15}x - 1\frac{6}{25}y\right) \left(3\frac{1}{45}x^2 + 14\frac{16}{21}xy - 1\frac{11}{17}y^2\right)$$

$$330) \left(1\frac{19}{33}a - \frac{1}{2}b\right) \left(8\frac{9}{20}a^2 - 1\frac{35}{48}ab + \frac{28}{31}b^2\right)$$

$$331) \left(4\frac{41}{50}x + 17\frac{14}{15}y\right) \left(16\frac{3}{13}x^2 + 7\frac{3}{20}xy + 1\frac{1}{2}y^2\right)$$

$$332) \left(1\frac{5}{6}a + 5\frac{6}{29}b\right) \left(ab + 1\frac{3}{16}a^2 - 1\frac{1}{19}b^2\right)$$

$$333) \left(8\frac{10}{23}x + 1\frac{3}{16}y\right) \left(\frac{3}{49}x^2 + \frac{27}{29}xy + 24\frac{32}{35}y^2\right)$$

$$334) \left(1\frac{17}{20}m - 1\frac{1}{3}n\right) \left(\frac{37}{50}m^2 - 1\frac{17}{31}mn + 22\frac{37}{45}n^2\right)$$

$$335) \left(\frac{5}{8}x - 1\frac{1}{3}y\right) \left(21\frac{16}{45}x^2 + 1\frac{17}{44}xy + \frac{5}{7}y^2\right)$$

$$336) \left(25\frac{1}{26}m + 1\frac{2}{11}n\right) \left(49m^2 + \frac{2}{5}mn + 9\frac{15}{22}n^2\right)$$

$$337) \left(1\frac{2}{3}x + 1\frac{2}{11}y\right) \left(15\frac{17}{35}x^2 + \frac{5}{11}xy + 6\frac{17}{48}y^2\right)$$

$$338) \left(14\frac{13}{47}x + 2\frac{1}{2}y\right) \left(1\frac{13}{16}x^2 - \frac{1}{7}xy + 7\frac{7}{9}y^2\right)$$

$$339) \left(\frac{3}{5}u + 14\frac{3}{7}v \right) \left(\frac{16}{43}u^2 + 1\frac{9}{13}uv - \frac{1}{2}v^2 \right)$$

$$340) \left(25\frac{11}{20}x + 1\frac{3}{5}y \right) \left(12\frac{29}{40}x^2 - 1\frac{14}{39}xy + 18\frac{9}{17}y^2 \right)$$

$$341) \left(17\frac{32}{37}u + 1\frac{18}{31}v \right) \left(1\frac{5}{28}u^2 + 10\frac{5}{8}uv - 5\frac{17}{29}v^2 \right)$$

$$342) \left(x + 23\frac{37}{45}y \right) \left(1\frac{4}{7}x^2 + 7\frac{3}{20}xy - \frac{2}{3}y^2 \right)$$

$$343) \left(2\frac{2}{23}u - \frac{16}{21}v \right) \left(41\frac{5}{6}u^2 + \frac{3}{10}uv + 3\frac{2}{3}v^2 \right)$$

$$344) \left(47\frac{21}{44}a + 23\frac{14}{23}b \right) \left(11ab + 10\frac{19}{22}a^2 + 15\frac{20}{49}b^2 \right)$$

$$345) \left(\frac{26}{27}x - \frac{6}{11}y \right) \left(22\frac{5}{49}x^2 + 8\frac{19}{22}xy - 1\frac{37}{48}y^2 \right)$$

$$346) \left(1\frac{1}{15}a + \frac{5}{11}b \right) \left(1\frac{10}{17}a^2 + 21\frac{1}{19}ab - 1\frac{15}{17}b^2 \right)$$

$$347) \left(-4y + 14\frac{21}{34}x \right) \left(1\frac{4}{17}x^2 + 17\frac{6}{31}xy - 24\frac{15}{26}y^2 \right)$$

$$348) \left(1\frac{12}{13}x + 22\frac{9}{47}y \right) \left(1\frac{15}{34}x^2 + 1\frac{1}{19}xy - 1\frac{7}{24}y^2 \right)$$

$$349) \left(m + 14\frac{15}{23}n \right) \left(12\frac{22}{49}m^2 + 4\frac{11}{12}mn - 1\frac{25}{42}n^2 \right)$$

$$350) \left(1\frac{19}{42}x + 21\frac{4}{9}y\right)\left(32y^2 + \frac{1}{3}x^2 - \frac{29}{45}xy\right)$$

$$351) \left(24\frac{17}{20}x + 11\frac{28}{29}y\right)\left(2\frac{36}{47}x^2 + 1\frac{1}{4}xy + 9\frac{13}{24}y^2\right)$$

$$352) \left(\frac{24}{37}m - \frac{34}{49}n\right)\left(1\frac{4}{7}m^2 + \frac{13}{14}mn + 14\frac{11}{47}n^2\right)$$

$$353) \left(23\frac{7}{10}x + 1\frac{2}{3}y\right)\left(1\frac{1}{4}x^2 + 8\frac{23}{49}xy + \frac{3}{7}y^2\right)$$

$$354) \left(\frac{8}{27}u - 1\frac{13}{38}v\right)\left(14\frac{47}{48}u^2 + \frac{27}{38}uv - 1\frac{7}{15}v^2\right)$$

$$355) \left(2y + 8\frac{29}{44}x\right)\left(2x^2 + 1\frac{1}{8}xy + 4\frac{5}{26}y^2\right)$$

$$356) \left(18\frac{19}{49}u - 1\frac{7}{19}v\right)\left(43uv + 22\frac{23}{40}u^2 + \frac{3}{4}v^2\right)$$

$$357) \left(11\frac{14}{17}x + 1\frac{2}{15}y\right)\left(\frac{3}{5}x^2 - \frac{21}{22}xy - \frac{2}{19}y^2\right)$$

$$358) \left(\frac{6}{17}u + 17\frac{27}{40}v\right)\left(1\frac{9}{22}u^2 + 9\frac{13}{46}uv + 16\frac{1}{42}v^2\right)$$

$$359) \left(\frac{19}{39}x - 1\frac{1}{4}y\right)\left(\frac{2}{15}x^2 + 6\frac{17}{27}xy + 1\frac{5}{7}y^2\right)$$

$$360) \left(y + \frac{1}{3}x\right)\left(19\frac{11}{14}x^2 + 1\frac{11}{26}xy + 14\frac{17}{20}y^2\right)$$

$$361) \left(14\frac{1}{7}a + 2\frac{11}{30}b\right)\left(-47ab + 15\frac{1}{9}a^2 + 19\frac{17}{50}b^2\right)$$

$$362) \left(\frac{19}{42}a + 5\frac{26}{29}b\right)\left(1\frac{7}{17}a^2 + 4\frac{2}{27}ab + \frac{2}{9}b^2\right)$$

$$363) \left(17\frac{25}{46}x + \frac{8}{23}y\right)\left(14\frac{12}{19}x^2 - 2\frac{7}{11}xy + 1\frac{1}{2}y^2\right)$$

$$364) \left(\frac{6}{7}m + \frac{4}{5}n \right) \left(1 \frac{47}{48}m^2 + 25 \frac{1}{2}mn - \frac{1}{7}n^2 \right)$$

$$365) \left(\frac{27}{32}x + 17 \frac{38}{43}y \right) \left(23 \frac{7}{8}x^2 - 21 \frac{22}{27}xy - \frac{1}{15}y^2 \right)$$

$$366) \left(1 \frac{18}{49}m + 1 \frac{20}{31}n \right) \left(20 \frac{1}{9}m^2 + 6 \frac{1}{4}mn - \frac{1}{4}n^2 \right)$$

$$367) \left(5 \frac{1}{4}x - 1 \frac{2}{3}y \right) \left(\frac{1}{31}x^2 + 16 \frac{19}{24}xy + \frac{1}{2}y^2 \right)$$

$$368) \left(3 \frac{7}{22}x + 13 \frac{8}{15}y \right) \left(14x^2 - \frac{47}{49}xy + 19 \frac{13}{18}y^2 \right)$$

$$369) \left(\frac{25}{39}u + 15 \frac{7}{20}v \right) \left(6 \frac{7}{8}u^2 + 14 \frac{1}{11}uv + \frac{17}{33}v^2 \right)$$

$$370) \left(\frac{1}{6}u - 1 \frac{27}{32}v \right) \left(37u^2 + 1 \frac{3}{4}uv - 1 \frac{7}{11}v^2 \right)$$

$$371) \left(8 \frac{1}{7}x - 1 \frac{7}{19}y \right) \left(46x^2 + 15 \frac{15}{34}xy - 1 \frac{22}{31}y^2 \right)$$

$$372) \left(19 \frac{16}{29}x - 1 \frac{4}{11}y \right) \left(-2y^2 + 6 \frac{18}{41}x^2 - 40 \frac{3}{46}xy \right)$$

$$373) \left(\frac{1}{2}a + \frac{2}{3}b \right) \left(23a^2 + 1 \frac{4}{5}ab - \frac{7}{30}b^2 \right)$$

$$374) \left(1 \frac{11}{50}x - \frac{1}{2}y \right) \left(1 \frac{36}{47}x^2 - \frac{4}{7}xy - 1 \frac{5}{11}y^2 \right)$$

$$375) \left(23 \frac{18}{19}a + 14 \frac{5}{37}b \right) \left(\frac{25}{42}a^2 + 1 \frac{26}{37}ab - 1 \frac{14}{31}b^2 \right)$$

$$376) \left(29x + 22 \frac{9}{14}y \right) \left(\frac{1}{2}x^2 + \frac{1}{2}xy - \frac{4}{29}y^2 \right)$$

$$377) \left(\frac{1}{4}a + 1 \frac{39}{40}b \right) \left(8 \frac{22}{37}a^2 - 1 \frac{8}{11}ab + 1 \frac{3}{10}b^2 \right)$$

$$378) \left(-2n + 10 \frac{23}{26}m \right) \left(24 \frac{11}{19}m^2 + 13 \frac{11}{46}mn - 1 \frac{17}{46}n^2 \right)$$

379) $\left(1\frac{24}{43}x + 1\frac{38}{49}y\right)\left(\frac{1}{18}x^2 + 12\frac{3}{28}xy - \frac{1}{3}y^2\right)$

380) $\left(1\frac{1}{3}x + 16\frac{3}{23}y\right)\left(31x^2 - 27xy + \frac{17}{28}y^2\right)$

381) $\left(\frac{11}{12}m + 8\frac{10}{13}n\right)\left(25\frac{37}{50}m^2 + \frac{1}{2}mn + \frac{28}{45}n^2\right)$

382) $\left(-2y + \frac{31}{33}x\right)\left(2x^2 - \frac{24}{31}xy + 18\frac{1}{6}y^2\right)$

383) $\left(14\frac{9}{16}x + 4\frac{7}{10}y\right)\left(1\frac{11}{20}x^2 + 4\frac{1}{12}xy + 13\frac{20}{31}y^2\right)$

384) $\left(2x + 29\frac{1}{2}y\right)\left(-2xy + 2\frac{3}{4}x^2 + 21\frac{3}{17}y^2\right)$

385) $\left(\frac{1}{2}u + 10\frac{35}{48}v\right)\left(-34v^2 + 1\frac{14}{27}u^2 - 2\frac{2}{5}uv\right)$

386) $\left(32x + \frac{11}{13}y\right)\left(1\frac{26}{47}x^2 - 1\frac{17}{28}xy - \frac{3}{11}y^2\right)$

387) $\left(1\frac{2}{9}a + 12\frac{29}{40}b\right)\left(\frac{7}{30}a^2 + 15\frac{1}{19}ab + \frac{4}{11}b^2\right)$

388) $\left(2v + 10\frac{10}{23}u\right)\left(8\frac{3}{10}u^2 + 20\frac{43}{46}uv + \frac{15}{31}v^2\right)$

389) $\left(-21y + 5\frac{12}{13}x\right)\left(16\frac{4}{7}x^2 - 1\frac{19}{33}xy + 1\frac{26}{47}y^2\right)$

390) $\left(16\frac{13}{48}x + 16\frac{11}{21}y\right)\left(1\frac{9}{25}x^2 + 7\frac{3}{20}xy + \frac{1}{2}y^2\right)$

391) $\left(\frac{1}{2}x - 1\frac{4}{5}y\right)\left(8\frac{1}{2}x^2 + 22\frac{5}{8}xy + 7\frac{17}{23}y^2\right)$

392) $\left(a + 7\frac{19}{42}b\right)\left(10\frac{1}{24}a^2 + 11\frac{13}{16}ab + 18\frac{2}{21}b^2\right)$

393) $\left(2x + 25\frac{17}{18}y\right)\left(\frac{29}{32}x^2 + \frac{1}{19}xy + \frac{21}{25}y^2\right)$

394) $\left(1\frac{5}{6}a + \frac{1}{2}b\right)\left(10\frac{10}{17}a^2 - \frac{6}{25}ab + 22\frac{2}{15}b^2\right)$

$$395) \left(20\frac{17}{38}m - 1\frac{29}{41}n\right)\left(13\frac{9}{10}m^2 + 1\frac{25}{29}mn + 1\frac{7}{40}n^2\right)$$

$$396) \left(\frac{16}{23}m - 1\frac{16}{31}n\right)\left(16m^2 - \frac{4}{7}mn - 2\frac{16}{23}n^2\right)$$

$$397) \left(23\frac{11}{28}x + 15\frac{11}{17}y\right)\left(\frac{1}{11}x^2 + 17\frac{2}{5}xy - \frac{31}{33}y^2\right)$$

$$398) \left(25\frac{6}{13}u + 1\frac{3}{5}v\right)\left(4\frac{39}{44}u^2 + \frac{6}{23}uv + 22\frac{13}{29}v^2\right)$$

$$399) \left(34x - \frac{21}{25}y\right)\left(\frac{36}{37}x^2 + 4\frac{8}{17}xy - 1\frac{5}{7}y^2\right)$$

$$400) \left(\frac{18}{31}x + \frac{7}{8}y\right)\left(17\frac{7}{17}x^2 + 13\frac{3}{17}xy + 1\frac{1}{2}y^2\right)$$

$$401) \left(49\frac{19}{28}x + 49\frac{3}{28}y\right)\left(22\frac{3}{50}x^2 - \frac{4}{11}xy + 36\frac{18}{35}y^2\right)$$

$$402) \left(35\frac{17}{21}u + 46\frac{40}{49}v\right)\left(-v^2 + \frac{40}{41}u^2 - 1\frac{7}{34}uv\right)$$

$$403) \left(25\frac{5}{42}x - 8\frac{53}{100}y\right)\left(-2xy + 57\frac{3}{8}x^2 + 41\frac{37}{51}y^2\right)$$

$$404) \left(1\frac{2}{3}a + 1\frac{2}{9}b\right)\left(\frac{11}{15}a^2 - \frac{11}{30}ab - 1\frac{6}{13}b^2\right)$$

$$405) \left(6\frac{3}{56}x - 1\frac{13}{27}y\right)\left(8\frac{13}{21}x^2 + 4\frac{19}{90}xy + 47\frac{15}{86}y^2\right)$$

$$406) \left(2b + \frac{5}{49}a\right)\left(23\frac{3}{4}a^2 + 1\frac{5}{16}ab - 65\frac{5}{8}b^2\right)$$

$$407) \left(1\frac{7}{32}a + 20\frac{47}{98}b\right)\left(\frac{29}{35}a^2 + 7\frac{14}{43}ab + 25\frac{7}{58}b^2\right)$$

$$408) \left(64x + 29\frac{29}{45}y\right)\left(42\frac{3}{8}x^2 - 1\frac{3}{16}xy - \frac{1}{3}y^2\right)$$

$$409) \left(45m + 48\frac{67}{88}n\right)\left(11\frac{2}{63}m^2 + 32\frac{37}{54}mn + \frac{28}{65}n^2\right)$$

$$410) \left(\frac{4}{17}x - 1\frac{27}{28}y\right)\left(1\frac{1}{26}x^2 + 1\frac{9}{56}xy + 1\frac{5}{27}y^2\right)$$

$$411) \left(\frac{1}{14}x + 37\frac{1}{14}y\right)\left(1\frac{3}{5}x^2 - 1\frac{1}{4}xy - \frac{29}{68}y^2\right)$$

$$412) \left(38\frac{25}{92}m + 46\frac{2}{3}n\right)\left(19\frac{39}{70}m^2 + 1\frac{1}{5}mn + \frac{85}{93}n^2\right)$$

$$413) \left(31\frac{9}{14}u + \frac{1}{4}v\right)\left(10\frac{6}{11}u^2 + 1\frac{39}{44}uv - 1\frac{39}{59}v^2\right)$$

$$414) \left(\frac{17}{21}x + \frac{38}{43}y\right)\left(96\frac{17}{48}x^2 + \frac{31}{38}xy - 1\frac{19}{81}y^2\right)$$

$$415) \left(41\frac{4}{7}x - 1\frac{37}{41}y\right)\left(30x^2 - 1\frac{28}{29}xy - 1\frac{1}{2}y^2\right)$$

$$416) \left(45\frac{1}{28}u + 1\frac{46}{51}v\right)\left(1\frac{53}{60}u^2 + 15\frac{20}{51}uv + 1\frac{4}{29}v^2\right)$$

$$417) \left(\frac{16}{35}x - 1\frac{19}{29}y\right)\left(1\frac{11}{74}x^2 - 1\frac{10}{31}xy + 37\frac{27}{56}y^2\right)$$

$$418) \left(48\frac{13}{42}a + 44\frac{23}{30}b\right)\left(22\frac{4}{57}a^2 + 1\frac{13}{43}ab + 15\frac{51}{70}b^2\right)$$

$$419) \left(\frac{5}{7}a + 1\frac{27}{29}b\right)\left(43\frac{66}{71}a^2 + 3\frac{57}{97}ab + \frac{49}{71}b^2\right)$$

$$420) \left(43\frac{6}{59}x - 1\frac{17}{24}y\right)\left(-46y^2 + 1\frac{46}{47}x^2 + 5\frac{4}{19}xy\right)$$

$$421) \left(26\frac{20}{63}x + 12\frac{47}{98}y\right)\left(30y^2 + \frac{2}{5}x^2 + 23\frac{53}{78}xy\right)$$

$$422) \left(29\frac{68}{77}x - \frac{55}{78}y\right)\left(\frac{25}{29}x^2 + 1\frac{5}{17}xy - \frac{38}{83}y^2\right)$$

$$423) \left(\frac{63}{71}m + 1\frac{7}{22}n\right)\left(\frac{15}{91}m^2 + 2\frac{25}{66}mn - 1\frac{13}{43}n^2\right)$$

$$424) \left(1\frac{23}{42}m + 44\frac{9}{31}n\right)\left(8\frac{67}{72}m^2 + 15\frac{1}{21}mn + 37\frac{3}{4}n^2\right)$$

$$425) \left(32\frac{17}{91}x + 32\frac{21}{58}y\right)\left(-45y^2 + 39\frac{26}{99}x^2 - 1\frac{35}{39}xy\right)$$

$$426) \left(34\frac{73}{99}m - 1\frac{5}{16}n\right)\left(\frac{10}{99}m^2 - \frac{31}{69}mn + \frac{13}{32}n^2\right)$$

$$427) \left(1\frac{2}{3}x + 32\frac{43}{59}y\right)\left(30\frac{4}{15}x^2 + \frac{8}{27}xy + 37\frac{3}{20}y^2\right)$$

$$428) \left(37\frac{4}{13}x + 29\frac{2}{27}y\right)\left(\frac{2}{5}x^2 + \frac{79}{88}xy - \frac{53}{57}y^2\right)$$

$$429) \left(12\frac{19}{21}u - 1\frac{5}{17}v\right)\left(96\frac{19}{42}u^2 - \frac{3}{7}uv + 3\frac{18}{29}v^2\right)$$

$$430) \left(1\frac{13}{17}u + 34\frac{17}{32}v\right)\left(47\frac{57}{70}u^2 + 1\frac{59}{86}uv + 10\frac{58}{63}v^2\right)$$

$$431) \left(\frac{5}{14}x + 20\frac{21}{88}y\right)\left(\frac{5}{8}x^2 + 1\frac{17}{18}xy + 43\frac{17}{48}y^2\right)$$

$$432) \left(\frac{11}{14}x + 23\frac{24}{61}y\right)\left(21\frac{11}{12}x^2 + 48\frac{11}{71}xy - 1\frac{5}{18}y^2\right)$$

$$433) \left(18\frac{33}{49}a - 1\frac{4}{37}b\right)\left(ab + 48\frac{95}{98}a^2 + 15\frac{38}{85}b^2\right)$$

$$434) \left(6y + 1\frac{3}{14}x\right)\left(24\frac{13}{17}x^2 + 18\frac{32}{63}xy + 20\frac{2}{15}y^2\right)$$

$$435) \left(-b + 1\frac{61}{63}a\right)\left(8\frac{27}{38}a^2 - \frac{55}{94}ab - 3\frac{7}{17}b^2\right)$$

$$436) \left(33\frac{11}{70}x + 1\frac{6}{41}y\right)\left(x^2 + 10\frac{61}{92}xy - 94\frac{16}{21}y^2\right)$$

$$437) \left(1\frac{61}{77}m + 31\frac{29}{90}n\right)\left(30\frac{13}{98}m^2 + 38\frac{23}{44}mn + 1\frac{28}{53}n^2\right)$$

$$438) \left(1\frac{18}{91}m + 1\frac{47}{76}n\right)\left(46\frac{11}{16}m^2 - \frac{4}{5}mn - 1\frac{1}{29}n^2\right)$$

$$439) \left(26\frac{11}{84}x - \frac{4}{7}y\right) \left(60xy + 46\frac{14}{15}x^2 + 46\frac{9}{14}y^2\right)$$

$$440) \left(11\frac{27}{98}x + 30\frac{1}{22}y\right) \left(\frac{1}{15}x^2 + 13\frac{11}{84}xy + 10\frac{47}{85}y^2\right)$$

$$441) \left(1\frac{2}{3}m + 50\frac{7}{62}n\right) \left(45\frac{12}{83}m^2 + 44\frac{17}{63}mn + \frac{14}{29}n^2\right)$$

$$442) \left(\frac{1}{13}x - \frac{1}{2}y\right) \left(16y^2 + 1\frac{21}{50}x^2 + \frac{53}{96}xy\right)$$

$$443) \left(2\frac{13}{20}x - \frac{48}{73}y\right) \left(35\frac{49}{100}x^2 - 1\frac{32}{39}xy - \frac{9}{14}y^2\right)$$

$$444) \left(9\frac{4}{35}x + 48\frac{2}{51}y\right) \left(89x^2 + 1\frac{1}{6}xy + 1\frac{36}{43}y^2\right)$$

$$445) \left(1\frac{18}{41}u + 1\frac{11}{78}v\right) \left(17\frac{25}{28}u^2 + 14\frac{3}{8}uv + 32\frac{94}{99}v^2\right)$$

$$446) \left(\frac{16}{27}u + 16\frac{15}{91}v\right) \left(1\frac{7}{17}u^2 + \frac{15}{37}uv + \frac{10}{19}v^2\right)$$

$$447) \left(23\frac{29}{48}x + 10\frac{37}{76}y\right) \left(30x^2 + 1\frac{7}{17}xy + 1\frac{4}{15}y^2\right)$$

$$448) \left(2\frac{31}{56}a - 1\frac{26}{27}b\right) \left(33\frac{58}{85}a^2 - 1\frac{17}{29}ab - \frac{25}{34}b^2\right)$$

$$449) \left(y + 1 \frac{10}{21}x \right) \left(1 \frac{24}{61}x^2 + 35 \frac{52}{93}xy - 1 \frac{19}{28}y^2 \right) \quad 450) \left(16 \frac{41}{69}a + 21 \frac{89}{98}b \right) \left(\frac{13}{17}a^2 + 8 \frac{7}{20}ab - \frac{6}{7}b^2 \right)$$

$$451) \left(74y + 1 \frac{29}{77}x \right) \left(35 \frac{71}{78}x^2 + 1 \frac{55}{67}xy + 39 \frac{9}{92}y^2 \right)$$

$$452) \left(\frac{11}{30}x - \frac{71}{79}y \right) \left(46 \frac{37}{39}x^2 - \frac{20}{27}xy - \frac{7}{11}y^2 \right)$$

$$453) \left(49 \frac{73}{84}m + 1 \frac{23}{29}n \right) \left(1 \frac{43}{54}m^2 + 18 \frac{13}{32}mn + 16 \frac{2}{11}n^2 \right)$$

$$454) \left(1 \frac{81}{98}m + 35 \frac{20}{23}n \right) \left(40 \frac{7}{90}m^2 + 7 \frac{47}{85}mn + 27 \frac{38}{59}n^2 \right)$$

$$455) \left(39 \frac{5}{6}x + 1 \frac{17}{27}y \right) \left(\frac{1}{5}x^2 - \frac{29}{79}xy - \frac{28}{55}y^2 \right) \quad 456) \left(1 \frac{9}{19}x + 46 \frac{1}{27}y \right) \left(-68y^2 + 9 \frac{9}{16}x^2 - \frac{1}{2}xy \right)$$

$$457) \left(1 \frac{8}{13}m + 26 \frac{5}{9}n \right) \left(42 \frac{70}{89}m^2 + \frac{13}{15}mn - 1 \frac{9}{17}n^2 \right)$$

$$458) \left(14 \frac{15}{34}u + 26 \frac{24}{61}v \right) \left(\frac{10}{21}u^2 + 1 \frac{9}{13}uv + 55 \frac{2}{95}v^2 \right)$$

$$459) \left(\frac{20}{27}x + \frac{91}{95}y \right) \left(46x^2 + 19 \frac{27}{56}xy + 35 \frac{15}{56}y^2 \right)$$

$$460) \left(5 \frac{39}{41}x - 1 \frac{4}{5}y \right) \left(1 \frac{3}{37}x^2 + 13 \frac{25}{74}xy + 86 \frac{1}{8}y^2 \right)$$

$$461) \left(1\frac{25}{48}u + 6\frac{11}{24}v\right)\left(\frac{2}{29}u^2 - \frac{29}{34}uv + 21\frac{19}{84}v^2\right)$$

$$462) \left(8\frac{59}{62}a - \frac{9}{16}b\right)\left(\frac{8}{17}a^2 + 1\frac{34}{93}ab + 43\frac{2}{55}b^2\right)$$

$$463) \left(33\frac{32}{55}x - 1\frac{21}{37}y\right)\left(\frac{2}{3}x^2 - 6\frac{29}{98}xy + 1\frac{36}{55}y^2\right)$$

$$464) \left(36\frac{61}{70}x + 23\frac{41}{53}y\right)\left(7\frac{23}{99}x^2 - \frac{28}{29}xy + 33\frac{2}{5}y^2\right)$$

$$465) \left(a - 1\frac{43}{48}b\right)\left(34ab + 1\frac{30}{73}a^2 + 12\frac{20}{73}b^2\right)$$

$$466) \left(1\frac{13}{83}x + 32\frac{17}{39}y\right)\left(1\frac{39}{58}x^2 - \frac{41}{46}xy + 29\frac{1}{8}y^2\right)$$

$$467) \left(40\frac{37}{91}m - 37\frac{20}{23}n\right)\left(9\frac{36}{41}m^2 + 1\frac{1}{46}mn - \frac{20}{39}n^2\right)$$

$$468) \left(\frac{81}{97}x - 1\frac{7}{13}y\right)\left(\frac{2}{7}x^2 - \frac{20}{27}xy + \frac{1}{10}y^2\right)$$

$$469) \left(32m + 20\frac{2}{27}n\right)\left(1\frac{37}{100}m^2 + 49\frac{34}{81}mn - 1\frac{9}{70}n^2\right)$$

$$470) \left(44\frac{1}{13}x + \frac{83}{91}y\right)\left(43\frac{4}{15}x^2 + 1\frac{31}{35}xy + 1\frac{34}{55}y^2\right)$$

$$471) \left(1\frac{7}{20}m + 48\frac{1}{55}n\right)\left(52m^2 - \frac{9}{31}mn + \frac{5}{8}n^2\right)$$

$$472) \left(21\frac{7}{26}x - \frac{8}{71}y\right)\left(36\frac{11}{42}x^2 - \frac{7}{47}xy + \frac{16}{19}y^2\right)$$

$$473) \left(\frac{6}{17}x - 3\frac{3}{40}y \right) \left(24\frac{7}{11}x^2 - 2\frac{71}{78}xy + 1\frac{3}{25}y^2 \right)$$

$$474) \left(24\frac{3}{41}u + 38\frac{7}{51}v \right) \left(13\frac{3}{31}u^2 + 76\frac{1}{27}uv + 31\frac{16}{47}v^2 \right)$$

$$475) \left(43\frac{17}{48}x + 16\frac{71}{91}y \right) \left(\frac{11}{21}x^2 - \frac{51}{94}xy - 1\frac{48}{73}y^2 \right)$$

$$476) \left(29\frac{21}{62}x + 34\frac{11}{19}y \right) \left(1\frac{1}{13}x^2 + \frac{5}{19}xy + \frac{1}{6}y^2 \right)$$

$$477) \left(1\frac{13}{27}u + 17\frac{61}{70}v \right) \left(28\frac{26}{61}u^2 - 1\frac{5}{18}uv + 29\frac{35}{94}v^2 \right)$$

$$478) \left(41b + \frac{7}{69}a \right) \left(\frac{39}{44}a^2 - 1\frac{95}{96}ab + 29\frac{91}{92}b^2 \right)$$

$$479) \left(32\frac{23}{76}x - \frac{11}{14}y \right) \left(-36xy + 44\frac{3}{41}x^2 + \frac{6}{31}y^2 \right)$$

$$480) \left(\frac{49}{90}x + \frac{11}{17}y \right) \left(27\frac{37}{84}x^2 + 28\frac{21}{29}xy - 1\frac{5}{6}y^2 \right)$$

$$481) \left(60a + \frac{9}{11}b \right) \left(-16b^2 + 10\frac{7}{45}a^2 + 34\frac{8}{65}ab \right)$$

$$482) \left(10\frac{7}{97}m + 14\frac{45}{67}n \right) \left(\frac{8}{47}m^2 + \frac{1}{91}mn + \frac{27}{41}n^2 \right)$$

$$483) \left(x + 1\frac{32}{71}y \right) \left(36\frac{43}{96}x^2 - \frac{25}{89}xy + 1\frac{47}{78}y^2 \right)$$

$$484) \left(63\frac{7}{12}m - 1\frac{9}{14}n \right) \left(\frac{1}{7}m^2 + 46\frac{23}{29}mn - 1\frac{19}{24}n^2 \right)$$

$$485) \left(1\frac{12}{19}x + \frac{22}{57}y\right)\left(19\frac{26}{63}x^2 + 38\frac{39}{80}xy + 48\frac{19}{84}y^2\right)$$

$$486) \left(2y + 16\frac{4}{27}x\right)\left(36\frac{17}{38}x^2 - 1\frac{6}{11}xy + \frac{1}{2}y^2\right)$$

$$487) \left(17\frac{28}{33}x + 20\frac{15}{16}y\right)\left(8\frac{37}{97}x^2 + 25\frac{46}{97}xy + 2\frac{67}{72}y^2\right)$$

$$488) \left(20\frac{25}{48}u + 1\frac{17}{95}v\right)\left(\frac{29}{80}u^2 + 36\frac{7}{20}uv + \frac{4}{21}v^2\right)$$

$$489) \left(1\frac{3}{8}x + \frac{18}{43}y\right)\left(-39xy + 1\frac{1}{24}x^2 + 43\frac{1}{6}y^2\right)$$

$$490) \left(62x - 1\frac{11}{50}y\right)\left(1\frac{21}{22}x^2 - \frac{3}{8}xy - 17\frac{22}{35}y^2\right)$$

$$491) \left(87u + \frac{65}{94}v\right)\left(2u^2 + 2\frac{2}{17}uv + 49\frac{2}{39}v^2\right)$$

$$492) \left(1\frac{61}{68}x + 20\frac{15}{59}y\right)\left(5x^2 - \frac{33}{46}xy + 41\frac{29}{70}y^2\right)$$

$$493) \left(\frac{13}{19}a + 34\frac{2}{3}b\right)\left(28\frac{23}{36}a^2 - 1\frac{63}{85}ab + 39\frac{21}{26}b^2\right)$$

$$494) \left(\frac{27}{89}a + \frac{5}{87}b\right)\left(2a^2 - 1\frac{8}{13}ab + 20\frac{6}{11}b^2\right)$$

$$495) \left(1\frac{30}{83}x + 27\frac{34}{43}y\right)\left(44\frac{10}{13}x^2 - \frac{19}{33}xy + \frac{1}{26}y^2\right)$$

$$496) \left(4\frac{60}{97}x - \frac{21}{22}y\right)\left(\frac{1}{3}x^2 + 17\frac{2}{3}xy + 1\frac{1}{2}y^2\right)$$

$$497) \left(-91n + \frac{2}{5}m\right)\left(5\frac{5}{6}m^2 + 39\frac{33}{94}mn + 24\frac{49}{68}n^2\right)$$

$$498) \left(37\frac{1}{12}x + 2\frac{29}{56}y\right)\left(34\frac{59}{84}x^2 + 17\frac{23}{62}xy + \frac{7}{9}y^2\right)$$

$$499) \left(9\frac{11}{19}m + 1\frac{83}{91}n\right)\left(52m^2 - \frac{13}{74}mn + 16\frac{79}{88}n^2\right)$$

$$500) \left(1\frac{12}{13}x + 25\frac{3}{4}y\right)\left(1\frac{6}{17}x^2 + 5\frac{19}{50}xy - 1\frac{13}{25}y^2\right)$$

$$501) \left(89x + \frac{11}{17}y\right)\left(-49xy + 43\frac{5}{8}x^2 + 13\frac{71}{88}y^2\right)$$

$$502) \left(\frac{11}{20}x + 24\frac{29}{62}y\right)\left(1\frac{13}{81}x^2 - \frac{7}{46}xy + 48\frac{81}{85}y^2\right)$$

$$503) \left(2x + 13\frac{32}{33}y\right)\left(1\frac{32}{75}x^2 + 26\frac{23}{86}xy + 1\frac{5}{41}y^2\right)$$

$$504) \left(39\frac{37}{54}u - 1\frac{3}{8}v\right)\left(\frac{17}{25}u^2 + 2\frac{23}{78}uv + 49\frac{47}{74}v^2\right)$$

$$505) \left(42\frac{17}{62}x + 50\frac{23}{30}y\right)\left(x^2 + xy + 18\frac{5}{6}y^2\right)$$

$$506) \left(1\frac{23}{25}x - \frac{3}{5}y\right)\left(38\frac{29}{42}x^2 + 1\frac{23}{67}xy + 27\frac{7}{25}y^2\right)$$

$$507) \left(44\frac{39}{68}u - \frac{2}{19}v \right) \left(26\frac{17}{18}u^2 - \frac{1}{2}uv - 1\frac{2}{25}v^2 \right)$$

$$508) \left(64b + 47\frac{63}{82}a \right) \left(71a^2 + 22\frac{2}{5}ab + 22\frac{17}{95}b^2 \right)$$

$$509) \left(13\frac{17}{90}x + 13\frac{23}{57}y \right) \left(85\frac{55}{96}x^2 + 1\frac{1}{2}xy + 27\frac{28}{43}y^2 \right)$$

$$510) \left(-89y + \frac{3}{4}x \right) \left(\frac{2}{15}x^2 + 33\frac{27}{50}xy - 2\frac{1}{5}y^2 \right)$$

$$511) \left(1\frac{1}{2}a + 11\frac{29}{34}b \right) \left(36\frac{5}{32}a^2 + 49\frac{46}{71}ab - 1\frac{13}{68}b^2 \right)$$

$$512) \left(16m + 1\frac{13}{18}n \right) \left(19\frac{63}{64}m^2 + \frac{2}{5}mn + \frac{28}{31}n^2 \right)$$

$$513) \left(\frac{16}{33}x + 14\frac{49}{50}y \right) \left(22\frac{11}{70}x^2 + 41\frac{31}{55}xy + 1\frac{29}{50}y^2 \right)$$

$$514) \left(3\frac{5}{19}x + 1\frac{7}{46}y \right) \left(13\frac{3}{16}x^2 + 42\frac{13}{45}xy + 1\frac{55}{72}y^2 \right)$$

$$515) \left(\frac{2}{5}m - \frac{6}{7}n \right) \left(\frac{44}{53}m^2 + 1\frac{21}{86}mn + 1\frac{8}{9}n^2 \right)$$

$$516) \left(4\frac{21}{40}x + 19\frac{23}{66}y \right) \left(\frac{22}{41}x^2 + 1\frac{57}{97}xy + 4\frac{19}{24}y^2 \right)$$

$$517) \left(1\frac{22}{23}x + 1\frac{4}{35}y \right) \left(\frac{15}{86}x^2 + \frac{28}{29}xy + 20\frac{51}{97}y^2 \right)$$

$$518) \left(40\frac{31}{54}x + 35\frac{8}{31}y\right)\left(6\frac{1}{64}x^2 + 38\frac{27}{67}xy - 1\frac{20}{31}y^2\right)$$

$$519) \left(\frac{51}{61}u + 28\frac{1}{22}v\right)\left(1\frac{6}{11}u^2 + \frac{25}{96}uv - 1\frac{15}{89}v^2\right)$$

$$520) \left(12\frac{27}{68}x + 29\frac{29}{83}y\right)\left(5\frac{31}{82}x^2 + \frac{16}{63}xy + 1\frac{33}{40}y^2\right)$$

$$521) \left(39\frac{14}{75}u + 31\frac{1}{63}v\right)\left(1\frac{5}{16}u^2 + \frac{35}{74}uv + 14\frac{8}{15}v^2\right)$$

$$522) \left(1\frac{38}{41}x + 49\frac{37}{51}y\right)\left(19\frac{27}{44}x^2 + 5\frac{3}{5}xy + 29\frac{5}{22}y^2\right)$$

$$523) \left(42\frac{57}{89}a + \frac{3}{7}b\right)\left(\frac{38}{55}a^2 + 1\frac{19}{24}ab + \frac{9}{31}b^2\right)$$

$$524) \left(\frac{96}{97}x - \frac{4}{37}y\right)\left(16xy + 13\frac{11}{97}x^2 + 1\frac{60}{67}y^2\right)$$

$$525) \left(19\frac{1}{4}a + 33\frac{5}{22}b\right)\left(8a^2 + 24\frac{1}{2}ab - 1\frac{5}{6}b^2\right)$$

$$526) \left(1\frac{4}{11}x + 9\frac{7}{24}y\right)\left(-2y^2 + 74xy + 1\frac{3}{13}x^2\right)$$

$$527) \left(1\frac{17}{18}m + \frac{27}{67}n\right)\left(\frac{7}{8}m^2 - 1\frac{13}{33}mn + 44\frac{20}{27}n^2\right)$$

$$528) \left(16\frac{17}{26}x - 1\frac{40}{73}y\right)\left(\frac{18}{23}x^2 - 1\frac{3}{38}xy - \frac{7}{43}y^2\right)$$

$$529) \left(\frac{3}{4}m + 11\frac{15}{52}n\right)\left(17mn + 12\frac{88}{93}m^2 - \frac{17}{21}n^2\right)$$

$$530) \left(27\frac{1}{39}x + 10\frac{41}{70}y\right)\left(71x^2 - 1\frac{30}{37}xy + 1\frac{37}{38}y^2\right)$$

$$531) \left(29\frac{44}{53}x - 1\frac{3}{50}y\right) \left(1\frac{23}{81}x^2 - \frac{12}{31}xy + 25\frac{1}{2}y^2\right)$$

$$532) \left(\frac{6}{47}x + 19\frac{37}{38}y\right) \left(1\frac{4}{21}x^2 + 27\frac{33}{64}xy + 47\frac{34}{63}y^2\right)$$

$$533) \left(31\frac{49}{60}x + \frac{20}{39}y\right) \left(94y^2 + 45\frac{65}{94}x^2 - 1\frac{1}{6}xy\right)$$

$$534) \left(\frac{21}{68}u - \frac{10}{17}v\right) \left(\frac{16}{43}u^2 + 18\frac{19}{62}uv + 40\frac{14}{45}v^2\right)$$

$$535) \left(8\frac{26}{75}x + 1\frac{2}{19}y\right) \left(38x^2 + 1\frac{1}{4}xy + 19\frac{5}{11}y^2\right)$$

$$536) \left(9\frac{35}{81}u - \frac{3}{4}v\right) \left(49\frac{36}{37}u^2 + 1\frac{37}{93}uv + \frac{59}{99}v^2\right)$$

$$537) \left(1\frac{30}{89}x + \frac{35}{97}y\right) \left(15\frac{1}{76}x^2 + \frac{12}{19}xy + 20\frac{85}{94}y^2\right)$$

$$538) \left(1\frac{11}{12}a - \frac{4}{41}b\right) \left(24ab + 1\frac{8}{21}a^2 + 2\frac{55}{69}b^2\right)$$

$$539) \left(\frac{1}{2}x + 34\frac{37}{82}y\right) \left(1\frac{1}{2}x^2 - \frac{11}{15}xy + 35\frac{12}{67}y^2\right)$$

$$540) \left(\frac{1}{6}x + 23\frac{5}{69}y\right) \left(1\frac{4}{7}x^2 - 1\frac{7}{19}xy + 37\frac{34}{43}y^2\right)$$

$$541) \left(15\frac{7}{11}a + 49\frac{25}{66}b\right) \left(24\frac{12}{67}a^2 + 25\frac{28}{81}ab + 31\frac{9}{59}b^2\right)$$

$$542) \left(\frac{6}{25}m + 12\frac{1}{12}n\right) \left(3\frac{5}{84}m^2 - 3\frac{16}{23}mn + 17\frac{3}{29}n^2\right)$$

$$543) \left(19\frac{9}{32}x + 27\frac{31}{36}y\right) \left(1\frac{1}{2}x^2 - 1\frac{31}{47}xy - \frac{31}{35}y^2\right)$$

$$544) \left(47\frac{7}{46}x - 1\frac{8}{15}y\right)\left(50\frac{57}{62}x^2 + 13\frac{45}{61}xy - 1\frac{29}{38}y^2\right)$$

$$545) \left(\frac{9}{13}m - \frac{47}{49}n\right)\left(1\frac{53}{87}m^2 + 6\frac{61}{64}mn - \frac{39}{85}n^2\right)$$

$$546) \left(1\frac{3}{53}x + 17\frac{73}{84}y\right)\left(21xy + 2\frac{23}{90}x^2 + 1\frac{2}{9}y^2\right)$$

$$547) \left(14\frac{11}{60}x - 1\frac{13}{35}y\right)\left(44\frac{68}{69}x^2 - \frac{1}{34}xy + 11\frac{71}{79}y^2\right)$$

$$548) \left(1\frac{45}{67}x + 18\frac{79}{84}y\right)\left(41\frac{37}{70}x^2 + 38\frac{17}{89}xy - 1\frac{6}{31}y^2\right)$$

$$549) \left(1\frac{19}{37}u + 11\frac{1}{14}v\right)\left(33\frac{68}{69}u^2 + 26\frac{15}{44}uv + 12\frac{12}{13}v^2\right)$$

$$550) \left(4\frac{39}{82}x + \frac{45}{62}y\right)\left(27x^2 + 1\frac{5}{49}xy + 14\frac{19}{78}y^2\right)$$

$$551) \left(1\frac{25}{88}u + 42\frac{71}{99}v\right)\left(1\frac{29}{46}u^2 + 24\frac{5}{58}uv + 11\frac{23}{42}v^2\right)$$

$$552) \left(4y + 41\frac{37}{95}x\right)\left(44\frac{11}{60}x^2 - 1\frac{70}{79}xy + 14\frac{2}{59}y^2\right)$$

$$553) \left(1\frac{1}{2}a + \frac{7}{17}b\right)\left(-39ab + 1\frac{39}{44}a^2 + 1\frac{7}{8}b^2\right)$$

$$554) \left(\frac{5}{11}x + \frac{15}{29}y\right)\left(33x^2 + 41\frac{37}{88}xy + \frac{9}{83}y^2\right)$$

$$555) \left(11\frac{11}{17}a + 1\frac{5}{11}b\right)\left(1\frac{1}{2}a^2 + 1\frac{1}{3}ab - \frac{25}{71}b^2\right)$$

$$556) \left(\frac{4}{5}x - \frac{1}{8}y\right)\left(20x^2 - 94xy + 6\frac{5}{18}y^2\right)$$

$$557) \left(41\frac{17}{32}m + \frac{15}{41}n\right) \left(16\frac{3}{40}m^2 + \frac{6}{47}mn + 6\frac{37}{88}n^2\right)$$

$$558) \left(\frac{7}{13}x + 21\frac{1}{2}y\right) \left(21\frac{73}{84}x^2 - 1\frac{1}{54}xy + 37\frac{41}{98}y^2\right)$$

$$559) \left(42\frac{34}{45}m - 1\frac{6}{35}n\right) \left(\frac{24}{29}m^2 - 1\frac{42}{53}mn + \frac{15}{23}n^2\right)$$

$$560) \left(43\frac{24}{53}x - \frac{43}{59}y\right) \left(\frac{1}{9}x^2 + 48\frac{38}{65}xy + 36\frac{23}{65}y^2\right)$$

$$561) \left(1\frac{1}{4}x + 21\frac{24}{31}y\right) \left(78y^2 + 2\frac{33}{85}x^2 - \frac{2}{3}xy\right)$$

$$562) \left(46\frac{45}{67}x - \frac{10}{13}y\right) \left(71y^2 + \frac{1}{4}x^2 - 1\frac{45}{88}xy\right)$$

$$563) \left(\frac{32}{37}x - \frac{16}{17}y\right) \left(11\frac{19}{33}x^2 + 36\frac{81}{100}xy - 1\frac{13}{14}y^2\right)$$

$$564) \left(49\frac{11}{81}u + 40\frac{13}{19}v\right) \left(12\frac{46}{75}u^2 + 1\frac{29}{54}uv + 12\frac{3}{49}v^2\right)$$

$$565) \left(\frac{69}{88}x + 23\frac{1}{3}y\right) \left(2\frac{19}{42}x^2 + 49\frac{49}{54}xy - 1\frac{2}{3}y^2\right)$$

$$566) \left(-96v + 26\frac{4}{95}u\right) \left(46\frac{17}{90}u^2 + 20\frac{37}{76}uv - \frac{92}{97}v^2\right)$$

$$567) \left(27\frac{2}{3}x + 29\frac{47}{86}y\right) \left(-32y^2 + 1\frac{19}{97}x^2 + 46\frac{47}{54}xy\right)$$

$$568) \left(\frac{1}{10}a + 23\frac{29}{32}b \right) \left(-28ab + 1\frac{20}{27}a^2 - 1\frac{1}{2}b^2 \right)$$

$$569) \left(-48y + 30\frac{5}{18}x \right) \left(1\frac{72}{79}x^2 + 23\frac{26}{53}xy + \frac{10}{11}y^2 \right)$$

$$570) \left(1\frac{1}{12}a + 1\frac{12}{19}b \right) \left(47\frac{19}{45}a^2 - \frac{15}{83}ab + 31\frac{13}{38}b^2 \right)$$

$$571) \left(33\frac{27}{31}x + 48\frac{44}{45}y \right) \left(6\frac{16}{33}x^2 + 9\frac{7}{8}xy + 16\frac{1}{51}y^2 \right)$$

$$572) \left(\frac{7}{39}m - \frac{1}{5}n \right) \left(26\frac{27}{34}m^2 - 1\frac{16}{31}mn + 5\frac{1}{12}n^2 \right)$$

$$573) \left(\frac{13}{23}x - 1\frac{19}{47}y \right) \left(\frac{38}{39}x^2 + 43\frac{59}{99}xy + 84\frac{21}{52}y^2 \right)$$

$$574) \left(4\frac{45}{52}m + 45\frac{1}{2}n \right) \left(88n^2 + 2\frac{1}{13}m^2 + \frac{23}{89}mn \right)$$

$$575) \left(1\frac{19}{60}x + 52\frac{10}{33}y \right) \left(44\frac{35}{46}x^2 + 50\frac{45}{56}xy + 44\frac{5}{38}y^2 \right)$$

$$576) \left(1\frac{24}{67}x - \frac{1}{76}y \right) \left(\frac{3}{4}x^2 + 42\frac{17}{40}xy - \frac{1}{5}y^2 \right)$$

$$577) \left(16\frac{19}{74}x + 7\frac{12}{83}y \right) \left(-36xy + \frac{43}{54}x^2 - \frac{11}{24}y^2 \right)$$

$$578) \left(4\frac{59}{88}u + 1\frac{37}{54}v \right) \left(49\frac{13}{14}u^2 + \frac{68}{81}uv + 16\frac{39}{68}v^2 \right)$$

$$579) \left(1\frac{3}{16}x + 44\frac{2}{63}y\right)\left(27x^2 + 1\frac{5}{6}xy + 39\frac{25}{51}y^2\right)$$

$$580) \left(1\frac{49}{95}x - 1\frac{22}{49}y\right)\left(1\frac{81}{89}x^2 + \frac{8}{47}xy + 2\frac{12}{67}y^2\right)$$

$$581) \left(17\frac{1}{2}u - 3\frac{5}{6}v\right)\left(1\frac{7}{15}u^2 + 47\frac{9}{44}uv + 1\frac{5}{14}v^2\right)$$

$$582) \left(11\frac{7}{10}x - \frac{4}{25}y\right)\left(13\frac{7}{20}x^2 - \frac{3}{5}xy + 1\frac{13}{37}y^2\right)$$

$$583) \left(30a + 7\frac{40}{41}b\right)\left(10\frac{45}{64}a^2 - 1\frac{1}{8}ab + 12\frac{31}{36}b^2\right)$$

$$584) \left(39\frac{23}{24}x + 45\frac{29}{98}y\right)\left(1\frac{16}{59}x^2 + 1\frac{5}{9}xy + 42\frac{1}{9}y^2\right)$$

$$585) \left(\frac{13}{31}a - 39\frac{57}{64}b\right)\left(1\frac{63}{64}a^2 + 11\frac{13}{82}ab + \frac{4}{61}b^2\right)$$

$$586) \left(1\frac{7}{9}m - 1\frac{18}{25}n\right)\left(1\frac{11}{25}m^2 + 22\frac{22}{91}mn + \frac{16}{93}n^2\right)$$

$$587) \left(1\frac{9}{53}x + 23\frac{49}{93}y\right)\left(30\frac{19}{63}x^2 + 1\frac{1}{19}xy + \frac{11}{83}y^2\right)$$

$$588) \left(29\frac{5}{38}x + 33\frac{53}{90}y\right)\left(1\frac{14}{33}x^2 + \frac{24}{25}xy + 14\frac{85}{99}y^2\right)$$

$$589) \left(7\frac{27}{59}m - 1\frac{7}{59}n\right)\left(68n^2 + \frac{61}{77}m^2 + 42\frac{7}{10}mn\right)$$

$$590) \left(\frac{7}{33}x - 3\frac{19}{79}y \right) \left(19\frac{81}{91}x^2 + 43\frac{73}{94}xy + 16\frac{15}{26}y^2 \right)$$

$$591) \left(10\frac{1}{74}x + 11\frac{11}{39}y \right) \left(\frac{4}{11}x^2 + 6\frac{16}{79}xy - \frac{7}{26}y^2 \right)$$

$$592) \left(1\frac{58}{81}x + \frac{1}{2}y \right) \left(26\frac{1}{24}x^2 + \frac{5}{43}xy + 5\frac{29}{30}y^2 \right)$$

$$593) \left(13\frac{67}{87}x - \frac{5}{18}y \right) \left(40\frac{7}{34}x^2 + 4\frac{7}{18}xy + \frac{1}{2}y^2 \right)$$

$$594) \left(57u + 21\frac{24}{25}v \right) \left(1\frac{1}{2}u^2 - \frac{9}{95}uv - \frac{46}{49}v^2 \right)$$

$$595) \left(2x + 25\frac{41}{94}y \right) \left(18\frac{29}{86}x^2 - \frac{20}{41}xy - \frac{3}{79}y^2 \right)$$

$$596) \left(17\frac{5}{9}u + 34\frac{21}{86}v \right) \left(1\frac{44}{75}u^2 + 36\frac{5}{12}uv + 33\frac{29}{42}v^2 \right)$$

$$597) \left(\frac{1}{2}x + 12\frac{21}{80}y \right) \left(10\frac{62}{65}x^2 + 41\frac{34}{35}xy + \frac{59}{67}y^2 \right)$$

$$598) \left(45\frac{1}{24}a + 1\frac{53}{65}b \right) \left(90b^2 + 2a^2 + 23\frac{5}{17}ab \right)$$

$$599) \left(\frac{15}{31}x + 1\frac{1}{67}y \right) \left(\frac{27}{35}x^2 - \frac{3}{7}xy - \frac{64}{65}y^2 \right)$$

$$600) \left(\frac{17}{37}a + 34\frac{7}{10}b \right) \left(43\frac{33}{70}a^2 + 32\frac{52}{71}ab + 49\frac{3}{4}b^2 \right)$$

Multiplying polynomials - Fractions - Simplify product of binomials and trinomials

Simplify product of fractions with two variables:

$$1) \left(\frac{1}{2}x + \frac{3}{8}y\right)\left(y^2 + \frac{1}{2}x^2 + 1\frac{1}{6}xy\right)$$

$$\frac{15}{16}xy^2 + \frac{1}{4}x^3 + \frac{37}{48}x^2y + \frac{3}{8}y^3$$

$$2) \left(2n + 2\frac{5}{6}m\right)\left(2n^2 + 2m^2 - 2\frac{4}{7}mn\right)$$

$$4n^3 - 3\frac{2}{7}nm^2 + \frac{11}{21}n^2m + 5\frac{2}{3}m^3$$

$$3) \left(1\frac{4}{7}a + 2\frac{3}{4}b\right)\left(1\frac{4}{5}a^2 + \frac{2}{5}ab - 3\frac{1}{4}b^2\right)$$

$$2\frac{29}{35}a^3 + 5\frac{81}{140}a^2b - 4\frac{1}{140}ab^2 - 8\frac{15}{16}b^3$$

$$4) \left(4\frac{2}{3}x + 1\frac{1}{2}y\right)\left(4\frac{3}{4}x^2 + 1\frac{2}{3}xy - \frac{3}{7}y^2\right)$$

$$22\frac{1}{6}x^3 + 14\frac{65}{72}x^2y + \frac{1}{2}xy^2 - \frac{9}{14}y^3$$

$$5) \left(4\frac{1}{3}x + 2\frac{3}{8}y\right)\left(8x^2 + 2xy + 2\frac{1}{8}y^2\right)$$

$$34\frac{2}{3}x^3 + 27\frac{2}{3}x^2y + 13\frac{23}{24}xy^2 + 5\frac{3}{64}y^3$$

$$6) \left(\frac{3}{4}x + 3\frac{3}{4}y\right)\left(1\frac{2}{7}x^2 - 1\frac{1}{2}xy - 2\frac{1}{2}y^2\right)$$

$$\frac{27}{28}x^3 + 3\frac{39}{56}x^2y - 7\frac{1}{2}xy^2 - 9\frac{3}{8}y^3$$

$$7) \left(2m - 1\frac{2}{3}n\right)\left(-n^2 + 1\frac{7}{8}m^2 + 3\frac{2}{7}mn\right)$$

$$-7\frac{10}{21}mn^2 + 3\frac{3}{4}m^3 + 3\frac{25}{56}m^2n + 1\frac{2}{3}n^3$$

$$8) \left(1\frac{6}{7}m - 1\frac{5}{7}n\right)\left(4\frac{1}{8}m^2 + 4\frac{3}{8}mn + 5\frac{1}{4}n^2\right)$$

$$7\frac{37}{56}m^3 + 1\frac{3}{56}m^2n + 2\frac{1}{4}mn^2 - 9n^3$$

$$9) \left(1\frac{1}{2}x + 3\frac{1}{6}y\right)\left(\frac{1}{5}x^2 + 2\frac{2}{3}xy + 2\frac{1}{2}y^2\right)$$

$$\frac{3}{10}x^3 + 4\frac{19}{30}x^2y + 12\frac{7}{36}xy^2 + 7\frac{11}{12}y^3$$

$$10) \left(-v + \frac{3}{4}u\right)\left(1\frac{4}{5}u^2 + 1\frac{1}{5}uv - 1\frac{1}{2}v^2\right)$$

$$-\frac{9}{10}vu^2 - 2\frac{13}{40}v^2u + 1\frac{1}{2}v^3 + 1\frac{7}{20}u^3$$

$$11) \left(7y + 3\frac{2}{7}x\right)\left(1\frac{1}{4}x^2 + 2\frac{3}{4}xy - 3\frac{2}{3}y^2\right)$$

$$17\frac{11}{14}yx^2 + 7\frac{17}{84}y^2x - 25\frac{2}{3}y^3 + 4\frac{3}{28}x^3$$

$$12) \left(-2y + 3\frac{4}{7}x\right)\left(4x^2 - 1\frac{4}{5}xy - 2\frac{6}{7}y^2\right)$$

$$-14\frac{3}{7}yx^2 - 6\frac{148}{245}y^2x + 5\frac{5}{7}y^3 + 14\frac{2}{7}x^3$$

$$13) \left(4\frac{5}{6}u + \frac{3}{4}v\right)\left(v^2 + u^2 - 1\frac{3}{7}uv\right)$$

$$3\frac{16}{21}uv^2 + 4\frac{5}{6}u^3 - 6\frac{13}{84}u^2v + \frac{3}{4}v^3$$

$$14) \left(3\frac{5}{8}x - \frac{1}{2}y\right)\left(xy + 1\frac{1}{2}x^2 - 1\frac{2}{3}y^2\right)$$

$$2\frac{7}{8}x^2y + 5\frac{7}{16}x^3 - 6\frac{13}{24}xy^2 + \frac{5}{6}y^3$$

$$15) \left(\frac{4}{7}x - 1\frac{3}{5}y\right)\left(x^2 - 1\frac{2}{5}xy + 1\frac{1}{5}y^2\right)$$

$$\frac{4}{7}x^3 - 2\frac{2}{5}x^2y + 2\frac{162}{175}xy^2 - 1\frac{23}{25}y^3$$

$$16) \left(\frac{3}{4}a - 1\frac{4}{7}b\right)\left(1\frac{1}{3}a^2 - 1\frac{7}{8}ab + 3\frac{5}{8}b^2\right)$$

$$a^3 - 3\frac{337}{672}a^2b + 5\frac{149}{224}ab^2 - 5\frac{39}{56}b^3$$

$$17) \left(2\frac{3}{4}a + 1\frac{3}{4}b\right)\left(\frac{2}{5}a^2 - \frac{1}{2}ab - \frac{1}{2}b^2\right)$$

$$1\frac{1}{10}a^3 - \frac{27}{40}a^2b - 2\frac{1}{4}ab^2 - \frac{7}{8}b^3$$

$$18) \left(\frac{1}{4}x + \frac{6}{7}y\right)\left(-3y^2 + 1\frac{1}{3}x^2 + 1\frac{1}{7}xy\right)$$

$$\frac{45}{196}xy^2 + \frac{1}{3}x^3 + 1\frac{3}{7}x^2y - 2\frac{4}{7}y^3$$

$$19) \left(1\frac{3}{4}m + 3\frac{5}{8}n\right)\left(\frac{1}{3}m^2 + 1\frac{1}{2}mn + 4\frac{7}{8}n^2\right)$$

$$\frac{7}{12}m^3 + 3\frac{5}{6}m^2n + 13\frac{31}{32}mn^2 + 17\frac{43}{64}n^3$$

$$20) \left(1\frac{5}{8}x + \frac{1}{2}y\right)\left(2\frac{1}{3}x^2 - 1\frac{1}{3}xy + 1\frac{7}{8}y^2\right)$$

$$3\frac{19}{24}x^3 - x^2y + 2\frac{73}{192}xy^2 + \frac{15}{16}y^3$$

$$21) \left(m + 1\frac{1}{2}n\right)\left(2\frac{1}{5}m^2 - \frac{3}{4}mn + \frac{2}{3}n^2\right)$$

$$2\frac{1}{5}m^3 + 2\frac{11}{20}m^2n - \frac{11}{24}mn^2 + n^3$$

$$22) \left(-2n + \frac{1}{2}m\right)\left(4n^2 + 2mn + 1\frac{1}{3}m^2\right)$$

$$-8n^3 - 2n^2m - 1\frac{2}{3}nm^2 + \frac{2}{3}m^3$$

$$23) \left(4\frac{1}{2}x - 1\frac{1}{2}y\right)\left(x^2 - \frac{1}{6}xy + 4\frac{2}{3}y^2\right)$$

$$4\frac{1}{2}x^3 - 2\frac{1}{4}x^2y + 21\frac{1}{4}xy^2 - 7y^3$$

$$24) \left(x + 3\frac{1}{2}y\right)\left(y^2 + xy + 2\frac{3}{4}x^2\right)$$

$$4\frac{1}{2}xy^2 + 10\frac{5}{8}x^2y + 2\frac{3}{4}x^3 + 3\frac{1}{2}y^3$$

$$25) \left(4\frac{3}{8}x - 1\frac{1}{2}y\right)\left(1\frac{1}{2}x^2 + 4\frac{3}{5}xy - 1\frac{6}{7}y^2\right)$$

$$6\frac{9}{16}x^3 + 17\frac{7}{8}x^2y - 15\frac{1}{40}xy^2 + 2\frac{11}{14}y^3$$

$$26) \left(2\frac{4}{5}x - \frac{1}{6}y\right)\left(2y^2 + \frac{1}{4}x^2 + 1\frac{7}{8}xy\right)$$

$$5\frac{23}{80}xy^2 + \frac{7}{10}x^3 + 5\frac{5}{24}x^2y - \frac{1}{3}y^3$$

$$27) \left(6\frac{1}{8}u - 1\frac{1}{2}v\right)\left(\frac{1}{5}u^2 + 4\frac{2}{3}uv + 1\frac{1}{2}v^2\right)$$

$$1\frac{9}{40}u^3 + 28\frac{17}{60}u^2v + 2\frac{3}{16}uv^2 - 2\frac{1}{4}v^3$$

$$28) \left(4\frac{1}{5}x + 2\frac{1}{2}y\right)\left(1\frac{1}{2}x^2 + \frac{1}{2}xy + \frac{1}{3}y^2\right)$$

$$6\frac{3}{10}x^3 + 5\frac{17}{20}x^2y + 2\frac{13}{20}xy^2 + \frac{5}{6}y^3$$

$$29) \left(1\frac{1}{2}u + 1\frac{3}{5}v\right)\left(6\frac{5}{6}u^2 + 1\frac{4}{5}uv + 4\frac{1}{2}v^2\right)$$

$$10\frac{1}{4}u^3 + 13\frac{19}{30}u^2v + 9\frac{63}{100}uv^2 + 7\frac{1}{5}v^3$$

$$30) \left(2a - \frac{1}{2}b\right)\left(-ab + 2\frac{1}{2}a^2 + 4\frac{1}{6}b^2\right)$$

$$-3\frac{1}{4}a^2b + 5a^3 + 8\frac{5}{6}ab^2 - 2\frac{1}{12}b^3$$

$$31) \left(3\frac{2}{5}x + 1\frac{2}{5}y\right)\left(1\frac{2}{3}x^2 - 1\frac{1}{4}xy - 3\frac{2}{3}y^2\right)$$

$$5\frac{2}{3}x^3 - 1\frac{11}{12}x^2y - 14\frac{13}{60}xy^2 - 5\frac{2}{15}y^3$$

$$32) \left(1\frac{3}{5}x - 1\frac{1}{5}y\right)\left(-5y^2 + 1\frac{7}{8}x^2 - 2\frac{1}{2}xy\right)$$

$$-5xy^2 + 3x^3 - 6\frac{1}{4}x^2y + 6y^3$$

$$33) \left(\frac{1}{2}a + 1\frac{1}{7}b\right)\left(1\frac{2}{5}a^2 - 3\frac{3}{5}ab - \frac{1}{7}b^2\right)$$

$$\frac{7}{10}a^3 - \frac{1}{5}a^2b - 4\frac{13}{70}ab^2 - \frac{8}{49}b^3$$

$$34) \left(6n + 3\frac{1}{2}m\right)\left(-n^2 - nm + 3\frac{3}{4}m^2\right)$$

$$-6n^3 - 9\frac{1}{2}n^2m + 19nm^2 + 13\frac{1}{8}m^3$$

$$35) \left(2n + 1\frac{1}{2}m\right)\left(n^2 + 3\frac{1}{8}m^2 + 1\frac{1}{7}mn\right)$$

$$2n^3 + 7\frac{27}{28}nm^2 + 3\frac{11}{14}n^2m + 4\frac{11}{16}m^3$$

$$36) \left(1\frac{4}{5}x - 3\frac{2}{3}y\right)\left(1\frac{3}{5}x^2 - \frac{2}{3}xy - 1\frac{1}{4}y^2\right)$$

$$2\frac{22}{25}x^3 - 7\frac{1}{15}x^2y + \frac{7}{36}xy^2 + 4\frac{7}{12}y^3$$

$$37) \left(\frac{1}{3}x + 1\frac{1}{8}y\right)\left(-2xy + 1\frac{2}{3}x^2 + \frac{3}{4}y^2\right)$$

$$1\frac{5}{24}x^2y + \frac{5}{9}x^3 - 2xy^2 + \frac{27}{32}y^3$$

$$38) \left(3\frac{5}{6}x + 4\frac{3}{5}y\right)\left(\frac{1}{2}x^2 - 1\frac{2}{3}xy - \frac{3}{4}y^2\right)$$

$$1\frac{11}{12}x^3 - 4\frac{4}{45}x^2y - 10\frac{13}{24}xy^2 - 3\frac{9}{20}y^3$$

$$39) \left(2\frac{1}{2}m + 1\frac{1}{2}n\right)\left(2m^2 + \frac{1}{2}mn - 1\frac{1}{6}n^2\right)$$

$$5m^3 + 4\frac{1}{4}m^2n - 2\frac{1}{6}mn^2 - 1\frac{3}{4}n^3$$

$$40) \left(\frac{2}{3}x + 1\frac{3}{4}y\right)\left(1\frac{1}{2}x^2 + 4\frac{1}{5}xy - 4\frac{5}{6}y^2\right)$$

$$x^3 + 5\frac{17}{40}x^2y + 4\frac{23}{180}xy^2 - 8\frac{11}{24}y^3$$

$$41) \left(3\frac{1}{6}u + \frac{3}{4}v\right)\left(1\frac{3}{4}u^2 + 1\frac{1}{3}uv + 1\frac{4}{7}v^2\right)$$

$$5\frac{13}{24}u^3 + 5\frac{77}{144}u^2v + 5\frac{41}{42}uv^2 + 1\frac{5}{28}v^3$$

$$42) \left(4\frac{1}{2}x - \frac{1}{3}y\right)\left(\frac{1}{5}x^2 + 1\frac{1}{2}xy - 2\frac{5}{6}y^2\right)$$

$$\frac{9}{10}x^3 + 6\frac{41}{60}x^2y - 13\frac{1}{4}xy^2 + \frac{17}{18}y^3$$

$$43) \left(2v + \frac{1}{7}u\right)\left(-v^2 + 1\frac{7}{8}u^2 + \frac{3}{4}uv\right)$$

$$-2v^3 + 3\frac{6}{7}vu^2 + 1\frac{5}{14}v^2u + \frac{15}{56}u^3$$

$$44) \left(-y + 4\frac{2}{3}x\right)\left(2\frac{4}{7}x^2 - 1\frac{1}{2}xy + \frac{3}{8}y^2\right)$$

$$-9\frac{4}{7}yx^2 + 3\frac{1}{4}y^2x - \frac{3}{8}y^3 + 12x^3$$

$$45) \left(\frac{1}{2}a + 1\frac{3}{4}b\right)\left(1\frac{3}{4}a^2 + 4\frac{1}{2}ab - 2\frac{3}{7}b^2\right)$$

$$\frac{7}{8}a^3 + 5\frac{5}{16}a^2b + 6\frac{37}{56}ab^2 - 4\frac{1}{4}b^3$$

$$46) \left(2\frac{1}{3}x + 1\frac{2}{5}y\right)\left(2x^2 - \frac{1}{4}xy + 1\frac{1}{4}y^2\right)$$

$$4\frac{2}{3}x^3 + 2\frac{13}{60}x^2y + 2\frac{17}{30}xy^2 + 1\frac{3}{4}y^3$$

$$47) \left(1\frac{1}{7}a - 2\frac{1}{3}b\right)\left(-2b^2 + \frac{5}{7}a^2 - \frac{3}{4}ab\right)$$

$$-\frac{15}{28}ab^2 + \frac{40}{49}a^3 - 2\frac{11}{21}a^2b + 4\frac{2}{3}b^3$$

$$48) \left(2x - 2\frac{1}{2}y\right)\left(3y^2 + 1\frac{1}{2}x^2 + 1\frac{1}{4}xy\right)$$

$$2\frac{7}{8}xy^2 + 3x^3 - 1\frac{1}{4}x^2y - 7\frac{1}{2}y^3$$

$$49) \left(\frac{1}{6}m + 3\frac{5}{6}n\right)\left(\frac{1}{4}m^2 + 4\frac{1}{2}mn - \frac{6}{7}n^2\right)$$

$$\frac{1}{24}m^3 + 1\frac{17}{24}m^2n + 17\frac{3}{28}mn^2 - 3\frac{2}{7}n^3$$

$$50) \left(\frac{1}{3}x + \frac{6}{7}y\right)\left(-2xy + 4\frac{3}{8}x^2 - 1\frac{4}{5}y^2\right)$$

$$3\frac{1}{12}x^2y + 1\frac{11}{24}x^3 - 2\frac{11}{35}xy^2 - 1\frac{19}{35}y^3$$

$$51) \left(2x + 3\frac{3}{4}y\right)\left(1\frac{1}{3}x^2 - 1\frac{1}{2}xy - 3\frac{5}{6}y^2\right)$$

$$2\frac{2}{3}x^3 + 2x^2y - 13\frac{7}{24}xy^2 - 14\frac{3}{8}y^3$$

$$52) \left(-n + 2\frac{6}{7}m\right)\left(2n^2 + \frac{2}{5}m^2 + \frac{1}{3}mn\right)$$

$$-2n^3 + \frac{58}{105}nm^2 + 5\frac{8}{21}n^2m + 1\frac{1}{7}m^3$$

$$53) \left(-6n + 1\frac{1}{7}m\right)\left(\frac{1}{3}m^2 + 4\frac{1}{4}mn + 4\frac{1}{7}n^2\right)$$

$$2\frac{6}{7}nm^2 - 20\frac{75}{98}n^2m - 24\frac{6}{7}n^3 + \frac{8}{21}m^3$$

$$54) \left(8\frac{3}{4}x - \frac{1}{4}y\right)\left(x^2 + 1\frac{2}{5}xy + 3\frac{3}{4}y^2\right)$$

$$8\frac{3}{4}x^3 + 12x^2y + 32\frac{37}{80}xy^2 - \frac{15}{16}y^3$$

$$55) \left(4\frac{1}{4}u - 3\frac{1}{7}v\right)\left(5v^2 + 3\frac{3}{4}u^2 - 3\frac{3}{5}uv\right)$$

$$32\frac{79}{140}uv^2 + 15\frac{15}{16}u^3 - 27\frac{3}{35}u^2v - 15\frac{5}{7}v^3$$

$$56) \left(y + 1\frac{5}{7}x\right)\left(\frac{2}{5}x^2 + 1\frac{2}{5}xy + 2\frac{4}{5}y^2\right)$$

$$2\frac{4}{5}yx^2 + 6\frac{1}{5}y^2x + 2\frac{4}{5}y^3 + \frac{24}{35}x^3$$

$$57) \left(1\frac{4}{7}x - 1\frac{3}{5}y\right)\left(1\frac{1}{6}x^2 - 2\frac{5}{6}xy + 4\frac{1}{2}y^2\right)$$

$$1\frac{5}{6}x^3 - 6\frac{67}{210}x^2y + 11\frac{127}{210}xy^2 - 7\frac{1}{5}y^3$$

$$58) \left(-7y + 1\frac{7}{8}x\right)\left(1\frac{5}{7}x^2 + \frac{1}{3}xy - \frac{1}{7}y^2\right)$$

$$-11\frac{3}{8}yx^2 - 2\frac{101}{168}y^2x + y^3 + 3\frac{3}{14}x^3$$

$$59) \left(4\frac{3}{4}u - 1\frac{2}{3}v\right)\left(1\frac{3}{4}u^2 + 2\frac{5}{7}uv - 3\frac{1}{6}v^2\right)$$

$$8\frac{5}{16}u^3 + 9\frac{41}{42}u^2v - 19\frac{95}{168}uv^2 + 5\frac{5}{18}v^3$$

$$61) \left(3\frac{6}{7}x + \frac{1}{5}y\right)\left(8x^2 + 1\frac{5}{6}xy + 2\frac{3}{8}y^2\right)$$

$$30\frac{6}{7}x^3 + 8\frac{47}{70}x^2y + 9\frac{443}{840}xy^2 + \frac{19}{40}y^3$$

$$63) \left(y + 4\frac{7}{8}x\right)\left(5\frac{1}{2}x^2 + 2xy - 2\frac{3}{8}y^2\right)$$

$$15\frac{1}{4}yx^2 - 9\frac{37}{64}y^2x - 2\frac{3}{8}y^3 + 26\frac{13}{16}x^3$$

$$65) \left(y + 3\frac{3}{8}x\right)\left(1\frac{1}{3}x^2 + 2\frac{5}{6}xy - 1\frac{1}{2}y^2\right)$$

$$10\frac{43}{48}yx^2 - 2\frac{11}{48}y^2x - 1\frac{1}{2}y^3 + 4\frac{1}{2}x^3$$

$$67) \left(\frac{3}{4}x - 1\frac{1}{5}y\right)\left(2x^2 + 2\frac{5}{8}xy + 3\frac{5}{6}y^2\right)$$

$$1\frac{1}{2}x^3 - \frac{69}{160}x^2y - \frac{11}{40}xy^2 - 4\frac{3}{5}y^3$$

$$69) \left(2y + \frac{3}{5}x\right)\left(y^2 - 2xy + \frac{1}{6}x^2\right)$$

$$2y^3 - 3\frac{2}{5}y^2x - \frac{13}{15}yx^2 + \frac{1}{10}x^3$$

$$71) \left(1\frac{5}{8}u + 1\frac{1}{3}v\right)\left(2\frac{1}{3}u^2 - 1\frac{4}{5}uv + 1\frac{3}{4}v^2\right)$$

$$3\frac{19}{24}u^3 + \frac{67}{360}u^2v + \frac{71}{160}uv^2 + 2\frac{1}{3}v^3$$

$$73) \left(1\frac{1}{2}u - 3\frac{1}{6}v\right)\left(3\frac{1}{4}u^2 - 2\frac{2}{3}uv - \frac{1}{3}v^2\right)$$

$$4\frac{7}{8}u^3 - 14\frac{7}{24}u^2v + 7\frac{17}{18}uv^2 + 1\frac{1}{18}v^3$$

$$75) \left(8\frac{1}{2}a - 1\frac{2}{3}b\right)\left(2\frac{1}{4}a^2 + 2\frac{5}{6}ab - \frac{1}{2}b^2\right)$$

$$19\frac{1}{8}a^3 + 20\frac{1}{3}a^2b - 8\frac{35}{36}ab^2 + \frac{5}{6}b^3$$

$$77) \left(1\frac{5}{6}x - 3\frac{3}{8}y\right)\left(3\frac{3}{7}x^2 - 1\frac{2}{5}xy - 1\frac{1}{5}y^2\right)$$

$$6\frac{2}{7}x^3 - 14\frac{29}{210}x^2y + 2\frac{21}{40}xy^2 + 4\frac{1}{20}y^3$$

$$60) \left(b + \frac{1}{4}a\right)\left(b^2 + \frac{5}{8}a^2 + \frac{1}{5}ab\right)$$

$$b^3 + \frac{27}{40}ba^2 + \frac{9}{20}b^2a + \frac{5}{32}a^3$$

$$62) \left(1\frac{3}{5}a + \frac{1}{6}b\right)\left(-b^2 + \frac{1}{7}a^2 - 1\frac{1}{4}ab\right)$$

$$-1\frac{97}{120}ab^2 + \frac{8}{35}a^3 - 1\frac{41}{42}a^2b - \frac{1}{6}b^3$$

$$64) \left(-6n + \frac{3}{4}m\right)\left(2m^2 + \frac{1}{4}mn - 2\frac{3}{5}n^2\right)$$

$$-11\frac{13}{16}nm^2 - 3\frac{9}{20}n^2m + 15\frac{3}{5}n^3 + 1\frac{1}{2}m^3$$

$$66) \left(7m - 1\frac{5}{7}n\right)\left(-2n^2 + \frac{1}{2}m^2 - 2\frac{2}{7}mn\right)$$

$$-10\frac{4}{49}mn^2 + 3\frac{1}{2}m^3 - 16\frac{6}{7}m^2n + 3\frac{3}{7}n^3$$

$$68) \left(\frac{3}{8}x + \frac{5}{7}y\right)\left(xy + 4\frac{4}{5}x^2 + \frac{3}{4}y^2\right)$$

$$3\frac{45}{56}x^2y + 1\frac{4}{5}x^3 + \frac{223}{224}xy^2 + \frac{15}{28}y^3$$

$$70) \left(2x + 1\frac{4}{5}y\right)\left(1\frac{3}{5}x^2 - 3\frac{1}{8}xy + \frac{3}{4}y^2\right)$$

$$3\frac{1}{5}x^3 - 3\frac{37}{100}x^2y - 4\frac{1}{8}xy^2 + 1\frac{7}{20}y^3$$

$$72) \left(\frac{1}{5}x - 3\frac{5}{6}y\right)\left(\frac{1}{4}x^2 - 1\frac{1}{4}xy - 1\frac{2}{3}y^2\right)$$

$$\frac{1}{20}x^3 - 1\frac{5}{24}x^2y + 4\frac{11}{24}xy^2 + 6\frac{7}{18}y^3$$

$$74) \left(2\frac{4}{5}x + 3\frac{1}{5}y\right)\left(4\frac{7}{8}x^2 - \frac{3}{5}xy + 2\frac{1}{7}y^2\right)$$

$$13\frac{13}{20}x^3 + 13\frac{23}{25}x^2y + 4\frac{2}{25}xy^2 + 6\frac{6}{7}y^3$$

$$76) \left(2\frac{2}{5}x - 1\frac{1}{5}y\right)\left(6x^2 + 1\frac{5}{6}xy + 1\frac{1}{4}y^2\right)$$

$$14\frac{2}{5}x^3 - 2\frac{4}{5}x^2y + \frac{4}{5}xy^2 - 1\frac{1}{2}y^3$$

$$78) \left(1\frac{4}{5}a - 1\frac{1}{2}b\right)\left(2a^2 + \frac{2}{3}ab - \frac{4}{7}b^2\right)$$

$$3\frac{3}{5}a^3 - 1\frac{4}{5}a^2b - 2\frac{1}{35}ab^2 + \frac{6}{7}b^3$$

$$79) \left(m - \frac{5}{7}n\right) \left(-2mn + 1\frac{4}{5}m^2 + 1\frac{1}{2}n^2\right) \\ -3\frac{2}{7}m^2n + 1\frac{4}{5}m^3 + 2\frac{13}{14}mn^2 - 1\frac{1}{14}n^3$$

$$80) \left(2\frac{1}{5}x - 1\frac{1}{4}y\right) \left(\frac{2}{5}x^2 + 4\frac{1}{6}xy + \frac{1}{8}y^2\right) \\ \frac{22}{25}x^3 + 8\frac{2}{3}x^2y - 4\frac{14}{15}xy^2 - \frac{5}{32}y^3$$

$$81) \left(x + \frac{1}{2}y\right) \left(1\frac{3}{4}x^2 - 2\frac{2}{3}xy - 3\frac{1}{2}y^2\right) \\ 1\frac{3}{4}x^3 - 1\frac{19}{24}x^2y - 4\frac{5}{6}xy^2 - 1\frac{3}{4}y^3$$

$$82) \left(1\frac{2}{3}m + 2\frac{1}{5}n\right) \left(2m^2 - \frac{2}{3}mn + 2\frac{1}{8}n^2\right) \\ 3\frac{1}{3}m^3 + 3\frac{13}{45}m^2n + 2\frac{3}{40}mn^2 + 4\frac{27}{40}n^3$$

$$83) \left(\frac{1}{2}x + 2\frac{5}{8}y\right) \left(2\frac{1}{3}x^2 + 1\frac{1}{2}xy + 1\frac{2}{3}y^2\right) \\ 1\frac{1}{6}x^3 + 6\frac{7}{8}x^2y + 4\frac{37}{48}xy^2 + 4\frac{3}{8}y^3$$

$$84) \left(1\frac{5}{6}x - 2\frac{5}{8}y\right) \left(x^2 - 3\frac{3}{4}xy - 2\frac{2}{3}y^2\right) \\ 1\frac{5}{6}x^3 - 9\frac{1}{2}x^2y + 4\frac{275}{288}xy^2 + 7y^3$$

$$85) \left(1\frac{1}{3}x + 1\frac{1}{8}y\right) \left(\frac{3}{8}x^2 + \frac{6}{7}xy + 3\frac{5}{6}y^2\right) \\ \frac{1}{2}x^3 + 1\frac{253}{448}x^2y + 6\frac{19}{252}xy^2 + 4\frac{5}{16}y^3$$

$$86) \left(\frac{2}{3}u - 1\frac{1}{6}v\right) \left(2u^2 + 1\frac{1}{3}uv + 2\frac{3}{4}v^2\right) \\ 1\frac{1}{3}u^3 - 1\frac{4}{9}u^2v + \frac{5}{18}uv^2 - 3\frac{5}{24}v^3$$

$$87) \left(y + 6\frac{1}{2}x\right) \left(3\frac{4}{5}x^2 - 1\frac{2}{5}xy + \frac{1}{6}y^2\right) \\ -5\frac{3}{10}yx^2 - \frac{19}{60}y^2x + \frac{1}{6}y^3 + 24\frac{7}{10}x^3$$

$$88) \left(1\frac{1}{3}x - \frac{1}{2}y\right) \left(-5y^2 + 3\frac{3}{4}x^2 + 1\frac{3}{5}xy\right) \\ -7\frac{7}{15}xy^2 + 5x^3 + \frac{31}{120}x^2y + 2\frac{1}{2}y^3$$

$$89) \left(4u + \frac{2}{3}v\right) \left(\frac{1}{2}u^2 - 1\frac{3}{7}uv + \frac{1}{2}v^2\right) \\ 2u^3 - 5\frac{8}{21}u^2v + 1\frac{1}{21}uv^2 + \frac{1}{3}v^3$$

$$90) \left(4\frac{5}{6}a + 3\frac{5}{7}b\right) \left(4\frac{3}{4}a^2 + 3\frac{3}{5}ab + 1\frac{1}{2}b^2\right) \\ 22\frac{23}{24}a^3 + 35\frac{3}{70}a^2b + 20\frac{87}{140}ab^2 + 5\frac{4}{7}b^3$$

$$91) \left(8y + 1\frac{2}{3}x\right) \left(\frac{1}{6}x^2 + 3\frac{1}{2}xy + 1\frac{6}{7}y^2\right) \\ 7\frac{1}{6}yx^2 + 31\frac{2}{21}y^2x + 14\frac{6}{7}y^3 + \frac{5}{18}x^3$$

$$92) \left(y + 1\frac{1}{3}x\right) \left(\frac{4}{5}x^2 + 1\frac{2}{3}xy + 1\frac{2}{3}y^2\right) \\ 3\frac{1}{45}yx^2 + 3\frac{8}{9}y^2x + 1\frac{2}{3}y^3 + 1\frac{1}{15}x^3$$

$$93) \left(3\frac{3}{7}a - 3\frac{1}{3}b\right) \left(\frac{3}{8}a^2 + 4\frac{2}{5}ab + \frac{5}{6}b^2\right) \\ 1\frac{2}{7}a^3 + 13\frac{117}{140}a^2b - 11\frac{17}{21}ab^2 - 2\frac{7}{9}b^3$$

$$94) \left(m + 1\frac{1}{4}n\right) \left(1\frac{2}{7}m^2 + 2\frac{2}{7}mn + \frac{2}{5}n^2\right) \\ 1\frac{2}{7}m^3 + 3\frac{25}{28}m^2n + 3\frac{9}{35}mn^2 + \frac{1}{2}n^3$$

$$95) \left(2\frac{1}{3}x - 3\frac{1}{3}y\right) \left(\frac{1}{3}x^2 + \frac{1}{2}xy + \frac{2}{7}y^2\right) \\ \frac{7}{9}x^3 + \frac{1}{18}x^2y - xy^2 - \frac{20}{21}y^3$$

$$96) \left(\frac{6}{7}m - \frac{3}{8}n\right) \left(2\frac{1}{4}m^2 + 2\frac{3}{5}mn + 1\frac{4}{5}n^2\right) \\ 1\frac{13}{14}m^3 + 1\frac{431}{1120}m^2n + \frac{159}{280}mn^2 - \frac{27}{40}n^3$$

$$97) \left(2\frac{1}{4}x + 1\frac{5}{7}y\right) \left(2y^2 + 2x^2 + \frac{1}{5}xy\right) \\ 4\frac{59}{70}xy^2 + 4\frac{1}{2}x^3 + 3\frac{123}{140}x^2y + 3\frac{3}{7}y^3$$

$$98) \left(2\frac{1}{3}x + 1\frac{1}{3}y\right) \left(-2xy + \frac{3}{5}x^2 + \frac{1}{7}y^2\right) \\ -3\frac{13}{15}x^2y + 1\frac{2}{5}x^3 - 2\frac{1}{3}xy^2 + \frac{4}{21}y^3$$

$$99) \left(8x + 1\frac{1}{7}y\right)\left(1\frac{1}{7}x^2 - 3\frac{1}{5}xy + 4\frac{1}{7}y^2\right)$$

$$9\frac{1}{7}x^3 - 24\frac{72}{245}x^2y + 29\frac{17}{35}xy^2 + 4\frac{36}{49}y^3$$

$$101) \left(2\frac{3}{4}x + 1\frac{1}{4}y\right)\left(4\frac{3}{8}x^2 + \frac{2}{3}xy + \frac{3}{8}y^2\right)$$

$$12\frac{1}{32}x^3 + 7\frac{29}{96}x^2y + 1\frac{83}{96}xy^2 + \frac{15}{32}y^3$$

$$103) \left(2\frac{4}{7}x + 1\frac{5}{6}y\right)\left(12x^2 + 1\frac{1}{6}xy + 2\frac{3}{11}y^2\right)$$

$$30\frac{6}{7}x^3 + 25x^2y + 7\frac{2725}{2772}xy^2 + 4\frac{1}{6}y^3$$

$$105) \left(1\frac{5}{6}a - 3\frac{3}{5}b\right)\left(2\frac{7}{12}a^2 + \frac{2}{9}ab - \frac{7}{9}b^2\right)$$

$$4\frac{53}{72}a^3 - 8\frac{241}{270}a^2b - 2\frac{61}{270}ab^2 + 2\frac{4}{5}b^3$$

$$107) \left(6m - 1\frac{3}{4}n\right)\left(\frac{3}{5}m^2 - \frac{2}{5}mn + \frac{1}{4}n^2\right)$$

$$3\frac{3}{5}m^3 - 3\frac{9}{20}m^2n + 2\frac{1}{5}mn^2 - \frac{7}{16}n^3$$

$$109) \left(\frac{1}{2}x - 1\frac{9}{11}y\right)\left(-7y^2 + 4\frac{7}{12}x^2 - \frac{6}{7}xy\right)$$

$$-1\frac{145}{154}xy^2 + 2\frac{7}{24}x^3 - 8\frac{16}{21}x^2y + 12\frac{8}{11}y^3$$

$$111) \left(\frac{4}{5}x - 1\frac{3}{4}y\right)\left(6\frac{4}{5}x^2 - 7\frac{3}{5}xy + \frac{7}{8}y^2\right)$$

$$5\frac{11}{25}x^3 - 17\frac{49}{50}x^2y + 14xy^2 - 1\frac{17}{32}y^3$$

$$113) \left(3y + 6\frac{7}{8}x\right)\left(3\frac{1}{2}x^2 + \frac{2}{3}xy + 1\frac{1}{3}y^2\right)$$

$$15\frac{1}{12}yx^2 + 11\frac{1}{6}y^2x + 4y^3 + 24\frac{1}{16}x^3$$

$$115) \left(1\frac{3}{7}x + 3\frac{1}{3}y\right)\left(y^2 + \frac{7}{9}x^2 + 4\frac{7}{11}xy\right)$$

$$16\frac{68}{77}xy^2 + 1\frac{1}{9}x^3 + 9\frac{449}{2079}x^2y + 3\frac{1}{3}y^3$$

$$117) \left(\frac{1}{4}u + 5\frac{9}{11}v\right)\left(2uv + \frac{2}{3}u^2 - 3\frac{5}{7}v^2\right)$$

$$4\frac{25}{66}u^2v + \frac{1}{6}u^3 + 10\frac{109}{154}uv^2 - 21\frac{47}{77}v^3$$

$$100) \left(\frac{4}{7}x + 2\frac{5}{8}y\right)\left(2x^2 + 1\frac{1}{3}xy + 1\frac{1}{3}y^2\right)$$

$$1\frac{1}{7}x^3 + 6\frac{1}{84}x^2y + 4\frac{11}{42}xy^2 + 3\frac{1}{2}y^3$$

$$102) \left(1\frac{3}{8}u + \frac{9}{10}v\right)\left(5uv + \frac{1}{6}u^2 + 1\frac{1}{2}v^2\right)$$

$$7\frac{1}{40}u^2v + \frac{11}{48}u^3 + 6\frac{9}{16}uv^2 + 1\frac{7}{20}v^3$$

$$104) \left(1\frac{1}{5}u - \frac{2}{3}v\right)\left(3uv + \frac{2}{3}u^2 - 2\frac{1}{4}v^2\right)$$

$$3\frac{7}{45}u^2v + \frac{4}{5}u^3 - 4\frac{7}{10}uv^2 + 1\frac{1}{2}v^3$$

$$106) \left(\frac{4}{5}x + 6\frac{1}{2}y\right)\left(5\frac{1}{4}x^2 - 1\frac{3}{8}xy + 3\frac{1}{6}y^2\right)$$

$$4\frac{1}{5}x^3 + 33\frac{1}{40}x^2y - 6\frac{97}{240}xy^2 + 20\frac{7}{12}y^3$$

$$108) \left(2\frac{5}{6}a - 3\frac{7}{12}b\right)\left(1\frac{3}{5}a^2 + 2\frac{1}{2}ab + \frac{5}{7}b^2\right)$$

$$4\frac{8}{15}a^3 + 1\frac{7}{20}a^2b - 6\frac{157}{168}ab^2 - 2\frac{47}{84}b^3$$

$$110) \left(1\frac{5}{6}x + 2\frac{7}{12}y\right)\left(2\frac{2}{5}x^2 + \frac{3}{5}xy - \frac{5}{11}y^2\right)$$

$$4\frac{2}{5}x^3 + 7\frac{3}{10}x^2y + \frac{43}{60}xy^2 - 1\frac{23}{132}y^3$$

$$112) \left(6\frac{11}{12}m + 1\frac{5}{12}n\right)\left(\frac{5}{8}m^2 - 2\frac{4}{11}mn + \frac{2}{3}n^2\right)$$

$$4\frac{31}{96}m^3 - 15\frac{163}{352}m^2n + 1\frac{26}{99}mn^2 + \frac{17}{18}n^3$$

$$114) \left(3\frac{1}{12}x + 1\frac{11}{12}y\right)\left(x^2 + xy - 2\frac{1}{3}y^2\right)$$

$$3\frac{1}{12}x^3 + 5x^2y - 5\frac{5}{18}xy^2 - 4\frac{17}{36}y^3$$

$$116) \left(\frac{1}{3}u - \frac{1}{8}v\right)\left(6uv + \frac{2}{3}u^2 + \frac{1}{2}v^2\right)$$

$$1\frac{19}{24}u^2v + \frac{5}{9}u^3 - \frac{7}{12}uv^2 - \frac{1}{16}v^3$$

$$118) \left(3\frac{4}{11}x - 1\frac{3}{5}y\right)\left(2x^2 - 3\frac{1}{3}xy + \frac{1}{3}y^2\right)$$

$$6\frac{8}{11}x^3 - 14\frac{68}{165}x^2y + 6\frac{5}{11}xy^2 - \frac{8}{15}y^3$$

$$119) \left(5\frac{1}{2}x - 3\frac{3}{7}y\right) \left(5\frac{1}{12}x^2 - 1\frac{1}{11}xy - 3\frac{7}{8}y^2\right)$$

$$27\frac{23}{24}x^3 - 23\frac{3}{7}x^2y - 17\frac{705}{1232}xy^2 + 13\frac{2}{7}y^3$$

$$121) \left(2a + 3\frac{1}{5}b\right) \left(\frac{1}{3}a^2 + \frac{1}{2}ab - 3\frac{1}{3}b^2\right)$$

$$\frac{2}{3}a^3 + 2\frac{1}{15}a^2b - 5\frac{1}{15}ab^2 - 10\frac{2}{3}b^3$$

$$123) \left(x + \frac{1}{2}y\right) \left(3\frac{5}{11}x^2 + \frac{5}{6}xy - 1\frac{3}{5}y^2\right)$$

$$3\frac{5}{11}x^3 + 2\frac{37}{66}x^2y - 1\frac{11}{60}xy^2 - \frac{4}{5}y^3$$

$$125) \left(\frac{2}{3}x - 1\frac{2}{3}y\right) \left(2x^2 + 1\frac{2}{3}xy - 1\frac{1}{5}y^2\right)$$

$$1\frac{1}{3}x^3 - 2\frac{2}{9}x^2y - 3\frac{26}{45}xy^2 + 2y^3$$

$$127) \left(1\frac{1}{2}x - 2\frac{1}{6}y\right) \left(-xy + 3\frac{7}{12}x^2 + 5\frac{1}{4}y^2\right)$$

$$-9\frac{19}{72}x^2y + 5\frac{3}{8}x^3 + 10\frac{1}{24}xy^2 - 11\frac{3}{8}y^3$$

$$129) \left(\frac{10}{11}x - 1\frac{1}{5}y\right) \left(3\frac{1}{2}x^2 + \frac{2}{3}xy + \frac{5}{6}y^2\right)$$

$$3\frac{2}{11}x^3 - 3\frac{98}{165}x^2y - \frac{7}{165}xy^2 - y^3$$

$$131) \left(x + 4\frac{1}{3}y\right) \left(\frac{3}{5}x^2 - \frac{1}{2}xy + 3\frac{4}{11}y^2\right)$$

$$\frac{3}{5}x^3 + 2\frac{1}{10}x^2y + 1\frac{13}{66}xy^2 + 14\frac{19}{33}y^3$$

$$133) \left(\frac{4}{7}x - 2\frac{10}{11}y\right) \left(2\frac{1}{4}x^2 - \frac{1}{2}xy + 6\frac{7}{10}y^2\right)$$

$$1\frac{2}{7}x^3 - 6\frac{64}{77}x^2y + 5\frac{109}{385}xy^2 - 19\frac{27}{55}y^3$$

$$135) \left(1\frac{8}{9}x - \frac{1}{3}y\right) \left(\frac{1}{10}x^2 - 1\frac{5}{8}xy + \frac{3}{5}y^2\right)$$

$$\frac{17}{90}x^3 - 3\frac{37}{360}x^2y + 1\frac{27}{40}xy^2 - \frac{1}{5}y^3$$

$$137) \left(\frac{7}{8}a - 1\frac{1}{4}b\right) \left(5b^2 + 1\frac{5}{8}a^2 + 1\frac{3}{7}ab\right)$$

$$2\frac{33}{56}ab^2 + 1\frac{27}{64}a^3 - \frac{25}{32}a^2b - 6\frac{1}{4}b^3$$

$$120) \left(5\frac{7}{12}a + 5\frac{5}{8}b\right) \left(\frac{2}{3}a^2 + 3\frac{2}{5}ab - \frac{1}{6}b^2\right)$$

$$3\frac{13}{18}a^3 + 22\frac{11}{15}a^2b + 18\frac{7}{36}ab^2 - \frac{15}{16}b^3$$

$$122) \left(\frac{1}{3}x + 5\frac{1}{4}y\right) \left(\frac{5}{6}x^2 - 1\frac{4}{5}xy - 2\frac{4}{5}y^2\right)$$

$$\frac{5}{18}x^3 + 3\frac{31}{40}x^2y - 10\frac{23}{60}xy^2 - 14\frac{7}{10}y^3$$

$$124) \left(5\frac{2}{5}m + \frac{8}{9}n\right) \left(\frac{1}{4}m^2 - 2\frac{3}{8}mn + 4\frac{4}{7}n^2\right)$$

$$1\frac{7}{20}m^3 - 12\frac{217}{360}m^2n + 22\frac{181}{315}mn^2 + 4\frac{4}{63}n^3$$

$$126) \left(1\frac{1}{8}m + 4\frac{1}{2}n\right) \left(2\frac{1}{12}m^2 - 1\frac{5}{9}mn + 2\frac{3}{7}n^2\right)$$

$$2\frac{11}{32}m^3 + 7\frac{5}{8}m^2n - 4\frac{15}{56}mn^2 + 10\frac{13}{14}n^3$$

$$128) \left(2\frac{3}{8}x + 6\frac{1}{9}y\right) \left(1\frac{3}{8}x^2 - 1\frac{2}{3}xy - 2\frac{4}{5}y^2\right)$$

$$3\frac{17}{64}x^3 + 4\frac{4}{9}x^2y - 16\frac{451}{540}xy^2 - 17\frac{1}{9}y^3$$

$$130) \left(6\frac{7}{10}u + \frac{7}{10}v\right) \left(-v^2 + 5\frac{5}{6}vu + u^2\right)$$

$$-2\frac{37}{60}uv^2 + 39\frac{47}{60}u^2v + 6\frac{7}{10}u^3 - \frac{7}{10}v^3$$

$$132) \left(\frac{1}{2}u + 1\frac{3}{11}v\right) \left(2\frac{9}{10}u^2 + 6\frac{1}{9}uv + 5\frac{1}{2}v^2\right)$$

$$1\frac{9}{20}u^3 + 6\frac{739}{990}u^2v + 10\frac{19}{36}uv^2 + 7v^3$$

$$134) \left(1\frac{3}{5}a + \frac{6}{7}b\right) \left(2\frac{1}{2}a^2 + 3\frac{7}{9}ab + 6\frac{7}{8}b^2\right)$$

$$4a^3 + 8\frac{59}{315}a^2b + 14\frac{5}{21}ab^2 + 5\frac{25}{28}b^3$$

$$136) \left(6\frac{1}{2}x + 5\frac{3}{4}y\right) \left(\frac{1}{3}x^2 + \frac{1}{4}xy - 1\frac{1}{8}y^2\right)$$

$$2\frac{1}{6}x^3 + 3\frac{13}{24}x^2y - 5\frac{7}{8}xy^2 - 6\frac{15}{32}y^3$$

$$138) \left(1\frac{2}{3}m + 3\frac{5}{12}n\right) \left(2m^2 + \frac{4}{9}mn - 3\frac{7}{8}n^2\right)$$

$$3\frac{1}{3}m^3 + 7\frac{31}{54}m^2n - 4\frac{203}{216}mn^2 - 13\frac{23}{96}n^3$$

$$139) \left(5\frac{3}{4}x - \frac{1}{3}y\right)\left(2x^2 + 3\frac{5}{6}xy + 4\frac{1}{8}y^2\right)$$

$$11\frac{1}{2}x^3 + 21\frac{3}{8}x^2y + 22\frac{127}{288}xy^2 - 1\frac{3}{8}y^3$$

$$141) \left(\frac{7}{8}x + 5\frac{1}{11}y\right)\left(6x^2 + 6\frac{1}{2}xy - 2\frac{1}{12}y^2\right)$$

$$5\frac{1}{4}x^3 + 36\frac{41}{176}x^2y + 31\frac{283}{1056}xy^2 - 10\frac{20}{33}y^3$$

$$143) \left(\frac{5}{7}x + 1\frac{6}{7}y\right)\left(3\frac{1}{2}x^2 + 1\frac{7}{9}xy + 4\frac{7}{10}y^2\right)$$

$$2\frac{1}{2}x^3 + 7\frac{97}{126}x^2y + 6\frac{83}{126}xy^2 + 8\frac{51}{70}y^3$$

$$145) \left(4\frac{1}{10}x + 3\frac{5}{8}y\right)\left(1\frac{5}{6}x^2 + 1\frac{1}{4}xy + \frac{4}{9}y^2\right)$$

$$7\frac{31}{60}x^3 + 11\frac{37}{48}x^2y + 6\frac{509}{1440}xy^2 + 1\frac{11}{18}y^3$$

$$147) \left(\frac{1}{2}x + \frac{1}{2}y\right)\left(6\frac{1}{3}x^2 - 1\frac{1}{4}xy - 2\frac{4}{11}y^2\right)$$

$$3\frac{1}{6}x^3 + 2\frac{13}{24}x^2y - 1\frac{71}{88}xy^2 - 1\frac{2}{11}y^3$$

$$149) \left(3\frac{2}{5}x + 1\frac{4}{7}y\right)\left(1\frac{2}{5}x^2 - 3\frac{1}{7}xy - \frac{1}{2}y^2\right)$$

$$4\frac{19}{25}x^3 - 8\frac{17}{35}x^2y - 6\frac{313}{490}xy^2 - \frac{11}{14}y^3$$

$$151) \left(\frac{1}{12}a + 6\frac{5}{8}b\right)\left(5\frac{6}{11}a^2 + 4\frac{1}{3}ab + \frac{5}{6}b^2\right)$$

$$\frac{61}{132}a^3 + 37\frac{79}{792}a^2b + 28\frac{7}{9}ab^2 + 5\frac{25}{48}b^3$$

$$153) \left(\frac{3}{11}x + \frac{4}{9}y\right)\left(6\frac{7}{10}x^2 + 1\frac{1}{3}xy + 2\frac{5}{12}y^2\right)$$

$$1\frac{91}{110}x^3 + 3\frac{169}{495}x^2y + 1\frac{299}{1188}xy^2 + 1\frac{2}{27}y^3$$

$$155) \left(1\frac{6}{7}m - \frac{1}{3}n\right)\left(2\frac{1}{3}m^2 - 1\frac{1}{3}mn - 1\frac{7}{8}n^2\right)$$

$$4\frac{1}{3}m^3 - 3\frac{16}{63}m^2n - 3\frac{19}{504}mn^2 + \frac{5}{8}n^3$$

$$157) \left(1\frac{1}{6}x - 1\frac{2}{5}y\right)\left(\frac{2}{3}x^2 - \frac{8}{9}xy + 2\frac{3}{10}y^2\right)$$

$$\frac{7}{9}x^3 - 1\frac{131}{135}x^2y + 3\frac{167}{180}xy^2 - 3\frac{11}{50}y^3$$

$$140) \left(3\frac{2}{3}m - 1\frac{1}{11}n\right)\left(2n^2 + 3\frac{2}{7}m^2 + 3\frac{1}{3}mn\right)$$

$$3\frac{23}{33}mn^2 + 12\frac{1}{21}m^3 + 8\frac{442}{693}m^2n - 2\frac{2}{11}n^3$$

$$142) \left(\frac{10}{11}x + \frac{5}{8}y\right)\left(5\frac{1}{3}x^2 + 4\frac{1}{7}xy + 1\frac{1}{6}y^2\right)$$

$$4\frac{28}{33}x^3 + 7\frac{23}{231}x^2y + 3\frac{1201}{1848}xy^2 + \frac{35}{48}y^3$$

$$144) \left(\frac{1}{3}x - 1\frac{1}{6}y\right)\left(-xy + 2\frac{2}{3}x^2 + 6\frac{1}{7}y^2\right)$$

$$-3\frac{4}{9}x^2y + \frac{8}{9}x^3 + 3\frac{3}{14}xy^2 - 7\frac{1}{6}y^3$$

$$146) \left(3\frac{1}{6}u + \frac{1}{4}v\right)\left(2u^2 - \frac{5}{7}uv - 1\frac{1}{2}v^2\right)$$

$$6\frac{1}{3}u^3 - 1\frac{16}{21}u^2v - 4\frac{13}{14}uv^2 - \frac{3}{8}v^3$$

$$148) \left(5\frac{4}{9}u + \frac{1}{6}v\right)\left(3\frac{3}{8}u^2 - \frac{1}{4}uv + 1\frac{1}{2}v^2\right)$$

$$18\frac{3}{8}u^3 - \frac{115}{144}u^2v + 8\frac{1}{8}uv^2 + \frac{1}{4}v^3$$

$$150) \left(1\frac{1}{2}a + \frac{5}{6}b\right)\left(-ab + 5\frac{4}{7}a^2 - \frac{1}{2}b^2\right)$$

$$3\frac{1}{7}a^2b + 8\frac{5}{14}a^3 - 1\frac{7}{12}ab^2 - \frac{5}{12}b^3$$

$$152) \left(5\frac{3}{8}x + 1\frac{7}{8}y\right)\left(2x^2 - 2\frac{2}{7}xy + \frac{4}{5}y^2\right)$$

$$10\frac{3}{4}x^3 - 8\frac{15}{28}x^2y + \frac{1}{70}xy^2 + 1\frac{1}{2}y^3$$

$$154) \left(5\frac{3}{10}m - 11\frac{3}{11}n\right)\left(3\frac{6}{7}m^2 - \frac{5}{6}mn + 1\frac{1}{9}n^2\right)$$

$$20\frac{31}{70}m^3 - 47\frac{829}{924}m^2n + 15\frac{28}{99}mn^2 - 12\frac{52}{99}n^3$$

$$156) \left(1\frac{1}{2}x + \frac{1}{2}y\right)\left(\frac{2}{11}x^2 + 4\frac{1}{3}xy - 1\frac{1}{2}y^2\right)$$

$$\frac{3}{11}x^3 + 6\frac{13}{22}x^2y - \frac{1}{12}xy^2 - \frac{3}{4}y^3$$

$$158) \left(2\frac{3}{5}x + \frac{2}{3}y\right)\left(\frac{5}{7}x^2 + 4\frac{2}{3}xy + 1\frac{2}{9}y^2\right)$$

$$1\frac{6}{7}x^3 + 12\frac{64}{105}x^2y + 6\frac{13}{45}xy^2 + \frac{22}{27}y^3$$

$$159) \left(\frac{1}{3}x + 1\frac{1}{2}y\right)\left(\frac{7}{12}x^2 + 2\frac{1}{2}xy + 1\frac{3}{4}y^2\right)$$

$$\frac{7}{36}x^3 + 1\frac{17}{24}x^2y + 4\frac{1}{3}xy^2 + 2\frac{5}{8}y^3$$

$$161) \left(v + 3\frac{1}{2}u\right)\left(-10v^2 + u^2 - \frac{1}{2}uv\right)$$

$$-10v^3 - \frac{3}{4}vu^2 - 35\frac{1}{2}v^2u + 3\frac{1}{2}u^3$$

$$163) \left(1\frac{1}{12}x + 1\frac{4}{11}y\right)\left(2x^2 - 3\frac{5}{6}xy + 4\frac{4}{7}y^2\right)$$

$$2\frac{1}{6}x^3 - 1\frac{337}{792}x^2y - \frac{127}{462}xy^2 + 6\frac{18}{77}y^3$$

$$165) \left(\frac{5}{8}a - \frac{2}{3}b\right)\left(1\frac{4}{7}a^2 + \frac{1}{4}ab + 3\frac{5}{6}b^2\right)$$

$$\frac{55}{56}a^3 - \frac{599}{672}a^2b + 2\frac{11}{48}ab^2 - 2\frac{5}{9}b^3$$

$$167) \left(2b + 1\frac{10}{11}a\right)\left(4\frac{9}{10}a^2 - 1\frac{1}{4}ab + 2\frac{4}{9}b^2\right)$$

$$7\frac{91}{220}ba^2 + 2\frac{1}{6}b^2a + 4\frac{8}{9}b^3 + 9\frac{39}{110}a^3$$

$$169) \left(3x + 5\frac{5}{9}y\right)\left(1\frac{2}{3}x^2 + 5\frac{1}{4}xy - 1\frac{2}{11}y^2\right)$$

$$5x^3 + 25\frac{1}{108}x^2y + 25\frac{41}{66}xy^2 - 6\frac{56}{99}y^3$$

$$171) \left(1\frac{1}{6}m - \frac{1}{3}n\right)\left(m^2 - 3\frac{1}{2}mn - \frac{8}{11}n^2\right)$$

$$1\frac{1}{6}m^3 - 4\frac{5}{12}m^2n + \frac{7}{22}mn^2 + \frac{8}{33}n^3$$

$$173) \left(-y + 1\frac{1}{6}x\right)\left(2xy + 4\frac{1}{4}x^2 + 5\frac{1}{8}y^2\right)$$

$$3\frac{47}{48}y^2x - 1\frac{11}{12}yx^2 - 5\frac{1}{8}y^3 + 4\frac{23}{24}x^3$$

$$175) \left(4\frac{7}{12}x + 5\frac{1}{4}y\right)\left(x^2 - 3\frac{10}{11}xy - 1\frac{4}{11}y^2\right)$$

$$4\frac{7}{12}x^3 - 12\frac{2}{3}x^2y - 26\frac{17}{22}xy^2 - 7\frac{7}{44}y^3$$

$$177) \left(2v + 1\frac{5}{12}u\right)\left(3\frac{1}{4}u^2 + 5\frac{1}{6}uv + 1\frac{2}{7}v^2\right)$$

$$13\frac{59}{72}vu^2 + 12\frac{13}{84}v^2u + 2\frac{4}{7}v^3 + 4\frac{29}{48}u^3$$

$$160) \left(12x + 1\frac{1}{3}y\right)\left(6\frac{4}{5}x^2 - 2\frac{5}{6}xy + 3\frac{1}{2}y^2\right)$$

$$81\frac{3}{5}x^3 - 24\frac{14}{15}x^2y + 38\frac{2}{9}xy^2 + 4\frac{2}{3}y^3$$

$$162) \left(2x + 1\frac{2}{3}y\right)\left(2x^2 - 3\frac{4}{5}xy + \frac{2}{3}y^2\right)$$

$$4x^3 - 4\frac{4}{15}x^2y - 5xy^2 + 1\frac{1}{9}y^3$$

$$164) \left(1\frac{2}{5}u + 1\frac{1}{2}v\right)\left(2u^2 - 1\frac{6}{11}uv - 1\frac{2}{5}v^2\right)$$

$$\frac{14}{15}u^3 - 1\frac{9}{55}u^2v - 4\frac{153}{550}uv^2 - 2\frac{1}{10}v^3$$

$$166) \left(\frac{1}{2}x + \frac{2}{9}y\right)\left(4\frac{11}{12}x^2 - 1\frac{2}{5}xy - 3\frac{5}{7}y^2\right)$$

$$2\frac{11}{24}x^3 + \frac{53}{135}x^2y - 2\frac{53}{315}xy^2 - \frac{52}{63}y^3$$

$$168) \left(2m + 6\frac{1}{5}n\right)\left(-n^2 + \frac{1}{3}m^2 - 1\frac{7}{10}mn\right)$$

$$-12\frac{27}{50}mn^2 + \frac{2}{3}m^3 - 1\frac{1}{3}m^2n - 6\frac{1}{5}n^3$$

$$170) \left(1\frac{1}{7}x + 1\frac{1}{3}y\right)\left(-xy + 1\frac{5}{7}x^2 + 3\frac{1}{6}y^2\right)$$

$$1\frac{1}{7}x^2y + 1\frac{47}{49}x^3 + 2\frac{2}{7}xy^2 + 4\frac{2}{9}y^3$$

$$172) \left(5\frac{1}{2}x + \frac{9}{10}y\right)\left(5x^2 - 3\frac{3}{4}xy - 3\frac{4}{7}y^2\right)$$

$$27\frac{1}{2}x^3 - 16\frac{1}{8}x^2y - 23\frac{1}{56}xy^2 - 3\frac{3}{14}y^3$$

$$174) \left(-y + 3\frac{4}{9}x\right)\left(2y^2 + 2\frac{7}{10}x^2 + 5\frac{1}{8}xy\right)$$

$$-2y^3 + 14\frac{343}{360}yx^2 + 1\frac{55}{72}y^2x + 9\frac{3}{10}x^3$$

$$176) \left(\frac{1}{2}u + 1\frac{1}{6}v\right)\left(1\frac{2}{9}u^2 + 5\frac{8}{11}uv - 1\frac{2}{9}v^2\right)$$

$$\frac{11}{18}u^3 + 4\frac{86}{297}u^2v + 6\frac{7}{99}uv^2 - 1\frac{23}{54}v^3$$

$$178) \left(5\frac{2}{5}x + \frac{1}{5}y\right)\left(3\frac{3}{10}x^2 - \frac{4}{5}xy - \frac{7}{10}y^2\right)$$

$$17\frac{41}{50}x^3 - 3\frac{33}{50}x^2y - 3\frac{47}{50}xy^2 - \frac{7}{50}y^3$$

$$179) \left(5\frac{3}{4}a - 2\frac{3}{8}b\right) \left(1\frac{1}{8}a^2 + \frac{7}{12}ab - 1\frac{4}{5}b^2\right)$$

$$6\frac{15}{32}a^3 + \frac{131}{192}a^2b - 11\frac{353}{480}ab^2 + 4\frac{11}{40}b^3$$

$$180) \left(\frac{3}{7}x - 1\frac{1}{2}y\right) \left(\frac{2}{5}x^2 - 1\frac{3}{5}xy - 2\frac{2}{3}y^2\right)$$

$$\frac{6}{35}x^3 - 1\frac{2}{7}x^2y + 1\frac{9}{35}xy^2 + 4y^3$$

$$181) \left(\frac{1}{8}x + 3\frac{5}{6}y\right) \left(3\frac{3}{10}x^2 - 2\frac{1}{2}xy + 6\frac{1}{12}y^2\right)$$

$$\frac{33}{80}x^3 + 12\frac{27}{80}x^2y - 8\frac{79}{96}xy^2 + 23\frac{23}{72}y^3$$

$$182) \left(1\frac{5}{6}a - 1\frac{7}{8}b\right) \left(4\frac{1}{3}a^2 - 1\frac{5}{8}ab - 1\frac{1}{6}b^2\right)$$

$$7\frac{17}{18}a^3 - 11\frac{5}{48}a^2b + \frac{523}{576}ab^2 + 2\frac{3}{16}b^3$$

$$183) \left(4\frac{2}{3}x + 1\frac{4}{9}y\right) \left(9x^2 - 4\frac{3}{4}xy - \frac{10}{11}y^2\right)$$

$$42x^3 - 9\frac{1}{6}x^2y - 11\frac{41}{396}xy^2 - 1\frac{31}{99}y^3$$

$$184) \left(1\frac{1}{5}m - \frac{1}{2}n\right) \left(\frac{1}{5}m^2 + 1\frac{1}{3}mn + 5\frac{7}{12}n^2\right)$$

$$\frac{6}{25}m^3 + 1\frac{1}{2}m^2n + 6\frac{1}{30}mn^2 - 2\frac{19}{24}n^3$$

$$185) \left(1\frac{5}{6}x - \frac{1}{5}y\right) \left(5\frac{5}{6}x^2 + 1\frac{5}{11}xy + 2\frac{6}{7}y^2\right)$$

$$10\frac{25}{36}x^3 + 1\frac{1}{2}x^2y + 4\frac{1094}{1155}xy^2 - \frac{4}{7}y^3$$

$$186) \left(\frac{5}{12}m + 1\frac{2}{3}n\right) \left(4\frac{1}{3}m^2 + \frac{1}{5}mn - 2\frac{1}{4}n^2\right)$$

$$1\frac{29}{36}m^3 + 7\frac{11}{36}m^2n - \frac{29}{48}mn^2 - 3\frac{3}{4}n^3$$

$$187) \left(11y + \frac{8}{9}x\right) \left(-8y^2 + 4\frac{9}{10}x^2 + 2\frac{11}{12}xy\right)$$

$$-88y^3 + 56\frac{133}{270}yx^2 + 24\frac{35}{36}y^2x + 4\frac{16}{45}x^3$$

$$188) \left(4\frac{3}{5}x + 1\frac{1}{2}y\right) \left(5\frac{4}{9}x^2 - \frac{5}{9}xy - 3\frac{7}{8}y^2\right)$$

$$25\frac{2}{45}x^3 + 5\frac{11}{18}x^2y - 18\frac{79}{120}xy^2 - 5\frac{13}{16}y^3$$

$$189) \left(\frac{5}{12}x - 2\frac{1}{10}y\right) \left(\frac{1}{3}x^2 + 3\frac{1}{4}xy - 3\frac{4}{5}y^2\right)$$

$$\frac{5}{36}x^3 + \frac{157}{240}x^2y - 8\frac{49}{120}xy^2 + 7\frac{49}{50}y^3$$

$$190) \left(6\frac{5}{8}x - 1\frac{1}{4}y\right) \left(10x^2 - \frac{3}{5}xy + 5\frac{2}{3}y^2\right)$$

$$66\frac{1}{4}x^3 - 16\frac{19}{40}x^2y + 38\frac{7}{24}xy^2 - 7\frac{1}{12}y^3$$

$$191) \left(1\frac{1}{5}u + 6\frac{4}{7}v\right) \left(4\frac{4}{9}u^2 - 1\frac{7}{10}uv - 1\frac{7}{9}v^2\right)$$

$$5\frac{1}{3}u^3 + 27\frac{262}{1575}u^2v - 13\frac{32}{105}uv^2 - 11\frac{43}{63}v^3$$

$$192) \left(1\frac{5}{11}x + \frac{4}{5}y\right) \left(2x^2 - \frac{1}{3}xy - 3\frac{5}{6}y^2\right)$$

$$2\frac{10}{11}x^3 + 1\frac{19}{165}x^2y - 5\frac{139}{165}xy^2 - 3\frac{1}{15}y^3$$

$$193) \left(\frac{7}{8}u - \frac{1}{4}v\right) \left(5\frac{3}{5}u^2 - \frac{1}{7}uv + 6\frac{2}{3}v^2\right)$$

$$4\frac{9}{10}u^3 - 1\frac{21}{40}u^2v + 5\frac{73}{84}uv^2 - 1\frac{2}{3}v^3$$

$$194) \left(1\frac{9}{10}a - 1\frac{1}{4}b\right) \left(-2ab + 5\frac{3}{5}a^2 + 1\frac{7}{12}b^2\right)$$

$$-10\frac{4}{5}a^2b + 10\frac{16}{25}a^3 + 5\frac{61}{120}ab^2 - 1\frac{47}{48}b^3$$

$$195) \left(3\frac{2}{3}x - 1\frac{2}{7}y\right) \left(1\frac{1}{4}x^2 + \frac{3}{8}xy - \frac{1}{2}y^2\right)$$

$$4\frac{7}{12}x^3 - \frac{13}{56}x^2y - 2\frac{53}{168}xy^2 + \frac{9}{14}y^3$$

$$196) \left(2\frac{1}{2}a + 2\frac{3}{5}b\right) \left(-2ab + 6\frac{4}{5}a^2 + 1\frac{1}{2}b^2\right)$$

$$12\frac{17}{25}a^2b + 17a^3 - 1\frac{9}{20}ab^2 + 3\frac{9}{10}b^3$$

$$197) \left(\frac{3}{7}x - 2\frac{7}{12}y\right) \left(y^2 + x^2 - 11\frac{1}{8}xy\right)$$

$$29\frac{113}{672}xy^2 + \frac{3}{7}x^3 - 7\frac{59}{168}x^2y - 2\frac{7}{12}y^3$$

$$198) \left(\frac{4}{9}x - 3\frac{5}{9}y\right) \left(\frac{3}{4}x^2 - \frac{1}{2}xy + \frac{4}{9}y^2\right)$$

$$\frac{1}{3}x^3 - 2\frac{8}{9}x^2y + 1\frac{79}{81}xy^2 - 1\frac{47}{81}y^3$$

$$199) \left(3\frac{1}{6}m + 2\frac{1}{10}n\right) \left(-5n^2 + 5\frac{3}{10}m^2 + 6\frac{1}{4}mn\right) \\ -2\frac{17}{24}mn^2 + 16\frac{47}{60}m^3 + 30\frac{553}{600}m^2n - 10\frac{1}{2}n^3$$

$$200) \left(-2y + \frac{1}{2}x\right) \left(1\frac{3}{5}x^2 + 2\frac{5}{12}xy - 1\frac{2}{3}y^2\right) \\ -1\frac{119}{120}yx^2 - 5\frac{2}{3}y^2x + 3\frac{1}{3}y^3 + \frac{4}{5}x^3$$

$$201) \left(1\frac{2}{3}x - \frac{4}{7}y\right) \left(-2xy + 1\frac{1}{3}x^2 + 1\frac{5}{6}y^2\right) \\ -4\frac{2}{21}x^2y + 2\frac{2}{9}x^3 + 4\frac{25}{126}xy^2 - 1\frac{1}{21}y^3$$

$$202) \left(1\frac{1}{2}m + 7\frac{15}{16}n\right) \left(1\frac{9}{13}m^2 + 1\frac{1}{15}mn + 10\frac{2}{13}n^2\right) \\ 2\frac{7}{13}m^3 + 15\frac{17}{520}m^2n + 23\frac{136}{195}mn^2 + 80\frac{31}{52}n^3$$

$$203) \left(20x + \frac{1}{2}y\right) \left(\frac{9}{19}x^2 - 1\frac{2}{11}xy + 10\frac{5}{6}y^2\right) \\ 9\frac{9}{19}x^3 - 23\frac{167}{418}x^2y + 216\frac{5}{66}xy^2 + 5\frac{5}{12}y^3$$

$$204) \left(3\frac{10}{19}x + 1\frac{1}{3}y\right) \left(8\frac{1}{12}x^2 + \frac{1}{8}xy + 9\frac{19}{20}y^2\right) \\ 28\frac{115}{228}x^3 + 11\frac{299}{1368}x^2y + 35\frac{289}{1140}xy^2 + 13\frac{4}{15}y^3$$

$$205) \left(-y + 4\frac{1}{4}x\right) \left(8\frac{5}{18}x^2 - \frac{7}{10}xy + \frac{1}{13}y^2\right) \\ -11\frac{91}{360}yx^2 + 1\frac{7}{260}y^2x - \frac{1}{13}y^3 + 35\frac{13}{72}x^3$$

$$206) \left(1\frac{1}{9}x + 3\frac{3}{4}y\right) \left(\frac{15}{16}x^2 + 4\frac{7}{10}xy - \frac{5}{11}y^2\right) \\ 1\frac{1}{24}x^3 + 8\frac{425}{576}x^2y + 17\frac{95}{792}xy^2 - 1\frac{31}{44}y^3$$

$$207) \left(1\frac{5}{7}u + \frac{14}{15}v\right) \left(2v^2 + 5\frac{13}{14}u^2 + 3\frac{1}{2}uv\right) \\ 6\frac{73}{105}uv^2 + 10\frac{8}{49}u^3 + 11\frac{8}{15}u^2v + 1\frac{13}{15}v^3$$

$$208) \left(1\frac{9}{10}u + 7\frac{9}{19}v\right) \left(1\frac{2}{5}u^2 + \frac{1}{5}uv + \frac{2}{5}v^2\right) \\ 2\frac{33}{50}u^3 + 10\frac{801}{950}u^2v + 2\frac{121}{475}uv^2 + 2\frac{94}{95}v^3$$

$$209) \left(1\frac{13}{15}a + 4\frac{9}{14}b\right) \left(9a^2 - \frac{4}{5}ab + 9\frac{2}{3}b^2\right) \\ 1\frac{89}{135}a^3 + 2\frac{998}{1575}a^2b + 14\frac{104}{315}ab^2 + 44\frac{37}{42}b^3$$

$$210) \left(\frac{2}{5}x + 1\frac{7}{9}y\right) \left(-y^2 - 2xy + 6\frac{1}{2}x^2\right) \\ -3\frac{43}{45}xy^2 + 10\frac{34}{45}x^2y + 2\frac{3}{5}x^3 - 1\frac{7}{9}y^3$$

$$211) \left(1\frac{3}{8}a + 1\frac{8}{17}b\right) \left(1\frac{7}{11}a^2 + 1\frac{1}{5}ab + 8\frac{1}{3}b^2\right) \\ 2\frac{1}{4}a^3 + 4\frac{211}{3740}a^2b + 13\frac{91}{408}ab^2 + 12\frac{13}{51}b^3$$

$$212) \left(1\frac{3}{11}x + 9\frac{10}{13}y\right) \left(2\frac{6}{7}x^2 + \frac{5}{8}xy + \frac{9}{20}y^2\right) \\ 3\frac{7}{11}x^3 + 28\frac{2833}{4004}x^2y + 6\frac{3881}{5720}xy^2 + 4\frac{103}{260}y^3$$

$$213) \left(8\frac{7}{9}m - 1\frac{1}{3}n\right) \left(-2mn + \frac{7}{13}m^2 + 5\frac{1}{2}n^2\right) \\ -18\frac{32}{117}m^2n + 4\frac{85}{117}m^3 + 50\frac{17}{18}mn^2 - 7\frac{1}{3}n^3$$

$$214) \left(\frac{2}{7}x + 8\frac{2}{3}y\right) \left(\frac{4}{5}x^2 + 10\frac{4}{5}xy + 2\frac{13}{17}y^2\right) \\ \frac{8}{35}x^3 + 10\frac{2}{105}x^2y + 94\frac{232}{595}xy^2 + 23\frac{49}{51}y^3$$

$$215) \left(2y + \frac{1}{4}x\right) \left(1\frac{1}{2}x^2 + 7\frac{5}{6}xy + 6\frac{9}{10}y^2\right) \\ 4\frac{23}{24}yx^2 + 17\frac{47}{120}y^2x + 13\frac{4}{5}y^3 + \frac{3}{8}x^3$$

$$216) \left(\frac{11}{16}m - \frac{1}{2}n\right) \left(1\frac{2}{9}m^2 + 2\frac{1}{10}mn + 1\frac{14}{15}n^2\right) \\ \frac{121}{144}m^3 + \frac{1199}{1440}m^2n + \frac{67}{240}mn^2 - \frac{29}{30}n^3$$

$$217) \left(7\frac{7}{8}x + 5\frac{1}{2}y\right) \left(1\frac{5}{8}x^2 - 1\frac{11}{13}xy + \frac{6}{17}y^2\right)$$

$$12\frac{51}{64}x^3 - 5\frac{125}{208}x^2y - 7\frac{331}{884}xy^2 + 1\frac{16}{17}y^3$$

$$218) \left(7\frac{9}{13}x - \frac{2}{3}y\right) \left(1\frac{6}{7}x^2 + 1\frac{1}{2}xy - 1\frac{1}{2}y^2\right)$$

$$14\frac{2}{7}x^3 + 10\frac{82}{273}x^2y - 12\frac{7}{13}xy^2 + y^3$$

$$219) \left(\frac{7}{17}x - 1\frac{7}{8}y\right) \left(9\frac{9}{14}x^2 - 13\frac{1}{2}xy - 1\frac{2}{3}y^2\right)$$

$$3\frac{33}{34}x^3 - 23\frac{1217}{1904}x^2y + 24\frac{511}{816}xy^2 + 3\frac{1}{8}y^3$$

$$220) \left(7\frac{10}{11}x - 2\frac{1}{20}y\right) \left(1\frac{1}{3}x^2 + 2\frac{6}{7}xy + \frac{2}{5}y^2\right)$$

$$10\frac{6}{11}x^3 + 19\frac{998}{1155}x^2y - 2\frac{267}{385}xy^2 - \frac{41}{50}y^3$$

$$221) \left(6\frac{5}{14}u - \frac{4}{9}v\right) \left(5v^2 + \frac{1}{2}u^2 + \frac{5}{16}uv\right)$$

$$31\frac{163}{252}uv^2 + 3\frac{5}{28}u^3 + 1\frac{1541}{2016}u^2v - 2\frac{2}{9}v^3$$

$$222) \left(7\frac{7}{12}x + 9\frac{3}{7}y\right) \left(-y^2 + 9\frac{17}{18}x^2 + 5\frac{6}{7}xy\right)$$

$$47\frac{377}{588}xy^2 + 75\frac{89}{216}x^3 + 138\frac{5}{28}x^2y - 9\frac{3}{7}y^3$$

$$223) \left(u - 1\frac{2}{3}v\right) \left(20\frac{6}{13}u^2 + 1\frac{8}{13}uv + 1\frac{7}{13}v^2\right)$$

$$20\frac{6}{13}u^3 - 32\frac{19}{39}u^2v - 1\frac{2}{13}uv^2 - 2\frac{22}{39}v^3$$

$$224) \left(5\frac{13}{18}x + 1\frac{1}{7}y\right) \left(9\frac{13}{16}x^2 + 1\frac{2}{5}xy - \frac{9}{14}y^2\right)$$

$$56\frac{43}{288}x^3 + 19\frac{71}{315}x^2y - 2\frac{11}{140}xy^2 - \frac{36}{49}y^3$$

$$225) \left(\frac{5}{8}a - 1\frac{7}{10}b\right) \left(5\frac{13}{15}a^2 + 9\frac{14}{15}ab - \frac{2}{5}b^2\right)$$

$$3\frac{2}{3}a^3 - 3\frac{153}{200}a^2b - 17\frac{41}{300}ab^2 + \frac{17}{25}b^3$$

$$226) \left(\frac{7}{10}a - \frac{14}{19}b\right) \left(\frac{13}{19}a^2 + 8\frac{6}{11}ab + \frac{7}{10}b^2\right)$$

$$\frac{91}{190}a^3 + 5\frac{9484}{19855}a^2b - 5\frac{16859}{20900}ab^2 - \frac{49}{95}b^3$$

$$227) \left(3\frac{8}{13}x - 1\frac{1}{3}y\right) \left(7x^2 - xy - 1\frac{15}{19}y^2\right)$$

$$25\frac{4}{13}x^3 - 12\frac{37}{39}x^2y - 5\frac{101}{741}xy^2 + 2\frac{22}{57}y^3$$

$$228) \left(\frac{1}{10}x + 3\frac{7}{18}y\right) \left(2x^2 - \frac{3}{5}xy + \frac{4}{13}y^2\right)$$

$$\frac{1}{5}x^3 + 6\frac{323}{450}x^2y - 2\frac{1}{390}xy^2 + 1\frac{5}{117}y^3$$

$$229) \left(3\frac{4}{17}m + 9\frac{11}{17}n\right) \left(1\frac{3}{10}m^2 + 1\frac{14}{19}mn + 7\frac{1}{12}n^2\right)$$

$$4\frac{7}{34}m^3 + 18\frac{259}{1615}m^2n + 39\frac{2605}{3876}mn^2 + 68\frac{1}{3}n^3$$

$$231) \left(1\frac{9}{14}x + \frac{1}{15}y\right) \left(2y^2 + \frac{5}{17}x^2 + 1\frac{6}{11}xy\right)$$

$$3\frac{449}{1155}xy^2 + \frac{115}{238}x^3 + 2\frac{4387}{7854}x^2y + \frac{2}{15}y^3$$

$$232) \left(5\frac{17}{18}x + 9\frac{11}{12}y\right) \left(\frac{3}{7}x^2 - \frac{7}{16}xy - 1\frac{1}{9}y^2\right)$$

$$2\frac{23}{42}x^3 + 1\frac{187}{288}x^2y - 10\frac{4891}{5184}xy^2 - 11\frac{1}{54}y^3$$

$$233) \left(2\frac{1}{5}m + \frac{5}{7}n\right) \left(\frac{11}{17}m^2 - \frac{7}{17}mn - \frac{3}{8}n^2\right)$$

$$1\frac{36}{85}m^3 - \frac{264}{595}m^2n - 1\frac{81}{680}mn^2 - \frac{15}{56}n^3$$

$$234) \left(\frac{3}{16}x - 1\frac{11}{12}y\right) \left(-4xy + 4\frac{13}{18}x^2 + \frac{5}{18}y^2\right)$$

$$-9\frac{173}{216}x^2y + \frac{85}{96}x^3 + 7\frac{23}{32}xy^2 - \frac{115}{216}y^3$$

$$235) \left(1\frac{1}{3}x + 10\frac{1}{9}y\right) \left(9y^2 + 5\frac{3}{19}x^2 - \frac{5}{8}xy\right)$$

$$5\frac{49}{72}xy^2 + 6\frac{50}{57}x^3 + 51\frac{109}{342}x^2y + 91y^3$$

$$236) \left(10\frac{2}{3}u - 2\frac{1}{2}v\right)\left(-14v^2 + 6\frac{3}{8}u^2 + 7\frac{3}{5}uv\right) \\ -168\frac{1}{3}uv^2 + 68u^3 + 65\frac{31}{240}u^2v + 35v^3$$

$$237) \left(\frac{11}{19}x + 1\frac{5}{9}y\right)\left(-xy + 6\frac{2}{3}x^2 + 1\frac{4}{5}y^2\right) \\ 9\frac{406}{513}x^2y + 3\frac{49}{57}x^3 - \frac{439}{855}xy^2 + 2\frac{4}{5}y^3$$

$$238) \left(9\frac{3}{17}u - 1\frac{11}{18}v\right)\left(7u^2 - 1\frac{1}{16}uv + 3\frac{1}{2}v^2\right) \\ 64\frac{4}{17}u^3 - 21\frac{1}{36}u^2v + 33\frac{4061}{4896}uv^2 - 5\frac{23}{36}v^3$$

$$239) \left(2a + 6\frac{13}{14}b\right)\left(-5b^2 + 9\frac{2}{3}a^2 + 1\frac{2}{5}ab\right) \\ -\frac{3}{10}ab^2 + 19\frac{1}{3}a^3 + 69\frac{163}{210}a^2b - 34\frac{9}{14}b^3$$

$$240) \left(5\frac{1}{2}x + 8\frac{2}{7}y\right)\left(3\frac{1}{10}x^2 - 1\frac{8}{9}xy + 1\frac{6}{7}y^2\right) \\ 17\frac{1}{20}x^3 + 15\frac{187}{630}x^2y - 5\frac{55}{126}xy^2 + 15\frac{19}{49}y^3$$

$$241) \left(1\frac{4}{9}a + 1\frac{3}{4}b\right)\left(15b^2 + \frac{2}{7}a^2 - \frac{1}{3}ab\right) \\ 21\frac{1}{12}ab^2 + \frac{26}{63}a^3 + \frac{1}{54}a^2b + 26\frac{1}{4}b^3$$

$$242) \left(1\frac{3}{7}x - \frac{15}{16}y\right)\left(2\frac{7}{15}x^2 + 8\frac{1}{2}xy + 7\frac{1}{5}y^2\right) \\ 3\frac{11}{21}x^3 + 9\frac{93}{112}x^2y + 2\frac{71}{224}xy^2 - 6\frac{3}{4}y^3$$

$$243) \left(\frac{1}{2}m - 3\frac{2}{9}n\right)\left(-mn + 1\frac{4}{7}m^2 + \frac{5}{16}n^2\right) \\ -5\frac{71}{126}m^2n + \frac{11}{14}m^3 + 3\frac{109}{288}mn^2 - 1\frac{1}{144}n^3$$

$$244) \left(6\frac{1}{3}x - 1\frac{5}{9}y\right)\left(\frac{2}{3}x^2 + \frac{1}{4}xy + \frac{1}{3}y^2\right) \\ 4\frac{2}{9}x^3 + \frac{59}{108}x^2y + 1\frac{13}{18}xy^2 - \frac{14}{27}y^3$$

$$245) \left(8\frac{5}{12}m + 3\frac{1}{16}n\right)\left(-n^2 + \frac{12}{13}m^2 + \frac{2}{5}mn\right) \\ -7\frac{23}{120}mn^2 + 7\frac{10}{13}m^3 + 6\frac{151}{780}m^2n - 3\frac{1}{16}n^3$$

$$246) \left(1\frac{7}{8}x + \frac{1}{4}y\right)\left(-19xy + \frac{17}{18}x^2 - 1\frac{7}{8}y^2\right) \\ -35\frac{7}{18}x^2y + 1\frac{37}{48}x^3 - 8\frac{17}{64}xy^2 - \frac{15}{32}y^3$$

$$247) \left(-5y + 4\frac{1}{7}x\right)\left(\frac{1}{5}x^2 + 6\frac{1}{4}xy + 9\frac{6}{13}y^2\right) \\ 24\frac{25}{28}yx^2 + 7\frac{345}{364}y^2x - 47\frac{4}{13}y^3 + \frac{29}{35}x^3$$

$$248) \left(x + 1\frac{1}{6}y\right)\left(1\frac{9}{17}x^2 + 10\frac{5}{6}xy + 1\frac{7}{13}y^2\right) \\ 1\frac{9}{17}x^3 + 12\frac{21}{34}x^2y + 14\frac{83}{468}xy^2 + 1\frac{31}{39}y^3$$

$$249) \left(3\frac{1}{4}x + 3\frac{1}{9}y\right)\left(1\frac{3}{10}x^2 - 1\frac{9}{14}xy + 9\frac{16}{17}y^2\right) \\ 4\frac{9}{40}x^3 - 1\frac{743}{2520}x^2y + 27\frac{121}{612}xy^2 + 30\frac{142}{153}y^3$$

$$250) \left(4\frac{3}{14}x + \frac{3}{4}y\right)\left(4\frac{1}{12}x^2 - \frac{8}{9}xy - \frac{7}{11}y^2\right) \\ 17\frac{5}{24}x^3 - \frac{689}{1008}x^2y - 3\frac{23}{66}xy^2 - \frac{21}{44}y^3$$

$$251) \left(1\frac{2}{11}u - 3\frac{7}{12}v\right)\left(1\frac{3}{8}u^2 + 7\frac{4}{11}uv + 1\frac{11}{12}v^2\right) \\ 1\frac{5}{8}u^3 + 3\frac{9007}{11616}u^2v - 24\frac{4}{33}uv^2 - 6\frac{125}{144}v^3$$

$$252) \left(3\frac{3}{8}x + 1\frac{6}{13}y\right)\left(\frac{2}{13}x^2 - \frac{1}{3}xy + \frac{1}{4}y^2\right) \\ \frac{27}{52}x^3 - \frac{1217}{1352}x^2y + \frac{445}{1248}xy^2 + \frac{19}{52}y^3$$

$$253) \left(3\frac{2}{5}u - \frac{1}{2}v\right)\left(8\frac{3}{11}u^2 - \frac{5}{7}uv + 9\frac{7}{20}v^2\right) \\ 28\frac{7}{55}u^3 - 6\frac{87}{154}u^2v + 32\frac{103}{700}uv^2 - 4\frac{27}{40}v^3$$

$$254) \left(1\frac{4}{15}x + 7\frac{4}{9}y\right)\left(\frac{1}{19}x^2 - \frac{1}{15}xy - 1\frac{1}{6}y^2\right) \\ \frac{1}{15}x^3 + \frac{146}{475}x^2y - 1\frac{263}{270}xy^2 - 8\frac{37}{54}y^3$$

$$255) \left(2\frac{11}{12}a + \frac{6}{17}b\right)\left(\frac{1}{2}a^2 - 1\frac{3}{4}ab - 3\frac{14}{15}b^2\right) \\ 1\frac{11}{24}a^3 - 4\frac{757}{816}a^2b - 12\frac{55}{612}ab^2 - 1\frac{33}{85}b^3$$

$$256) \left(14\frac{2}{9}x + 9\frac{5}{18}y\right) \left(\frac{1}{11}x^2 + \frac{2}{3}xy + 1\frac{1}{2}y^2\right)$$

$$1\frac{29}{99}x^3 + 10\frac{193}{594}x^2y + 27\frac{14}{27}xy^2 + 13\frac{11}{12}y^3$$

$$257) \left(\frac{6}{7}a + 6\frac{1}{5}b\right) \left(-b^2 + 5\frac{1}{2}a^2 + 4\frac{5}{16}ab\right)$$

$$25\frac{493}{560}ab^2 + 4\frac{5}{7}a^3 + 37\frac{223}{280}a^2b - 6\frac{1}{5}b^3$$

$$258) \left(3\frac{3}{16}x + \frac{5}{16}y\right) \left(y^2 + \frac{4}{9}x^2 + 2\frac{11}{15}xy\right)$$

$$4\frac{1}{24}xy^2 + 1\frac{5}{12}x^3 + 8\frac{613}{720}x^2y + \frac{5}{16}y^3$$

$$259) \left(10\frac{8}{11}x - \frac{11}{12}y\right) \left(1\frac{3}{20}x^2 + 4\frac{2}{3}xy + 4\frac{1}{2}y^2\right)$$

$$12\frac{37}{110}x^3 + 49\frac{17}{2640}x^2y + 43\frac{197}{198}xy^2 - 4\frac{1}{8}y^3$$

$$260) \left(-5n + \frac{3}{13}m\right) \left(10\frac{7}{12}m^2 + 7\frac{13}{14}mn - 2\frac{16}{17}n^2\right)$$

$$-51\frac{95}{1092}nm^2 - 40\frac{995}{3094}n^2m + 14\frac{12}{17}n^3 + 2\frac{23}{52}m^3$$

$$261) \left(\frac{3}{4}m + 2\frac{7}{12}n\right) \left(4\frac{4}{5}m^2 + 1\frac{1}{18}mn - 3\frac{2}{5}n^2\right)$$

$$3\frac{3}{5}m^3 + 13\frac{23}{120}m^2n + \frac{191}{1080}mn^2 - 8\frac{47}{60}n^3$$

$$262) \left(9\frac{13}{15}x + 7\frac{2}{7}y\right) \left(10\frac{17}{18}x^2 - 3\frac{5}{18}xy + 4\frac{5}{6}y^2\right)$$

$$107\frac{133}{135}x^3 + 47\frac{751}{1890}x^2y + 23\frac{509}{630}xy^2 + 35\frac{3}{14}y^3$$

$$263) \left(1\frac{10}{17}x - \frac{4}{5}y\right) \left(x^2 + 6\frac{13}{16}xy - \frac{1}{9}y^2\right)$$

$$1\frac{10}{17}x^3 + 10\frac{27}{1360}x^2y - 5\frac{213}{340}xy^2 + \frac{4}{45}y^3$$

$$264) \left(2\frac{1}{2}x + 6\frac{3}{10}y\right) \left(6\frac{1}{3}x^2 + 1\frac{17}{20}xy - 1\frac{3}{8}y^2\right)$$

$$15\frac{5}{6}x^3 + 44\frac{21}{40}x^2y + 8\frac{87}{400}xy^2 - 8\frac{53}{80}y^3$$

$$265) \left(\frac{1}{2}x - 1\frac{7}{8}y\right) \left(\frac{2}{3}x^2 + 3\frac{5}{6}xy + \frac{1}{4}y^2\right)$$

$$\frac{1}{3}x^3 + \frac{2}{3}x^2y - 7\frac{1}{16}xy^2 - \frac{15}{32}y^3$$

$$266) \left(\frac{3}{19}u + \frac{3}{5}v\right) \left(u^2 - \frac{10}{13}uv + 7\frac{1}{2}v^2\right)$$

$$\frac{3}{19}u^3 + \frac{591}{1235}u^2v + \frac{357}{494}uv^2 + 4\frac{1}{2}v^3$$

$$267) \left(1\frac{13}{16}x - 2\frac{5}{7}y\right) \left(2x^2 + 2\frac{1}{12}xy - \frac{8}{9}y^2\right)$$

$$3\frac{5}{8}x^3 - 1\frac{877}{1344}x^2y - 7\frac{67}{252}xy^2 + 2\frac{26}{63}y^3$$

$$268) \left(\frac{3}{4}x + \frac{4}{5}y\right) \left(2y^2 + 6\frac{6}{7}x^2 + 2\frac{9}{14}xy\right)$$

$$3\frac{43}{70}xy^2 + 5\frac{1}{7}x^3 + 7\frac{131}{280}x^2y + 1\frac{3}{5}y^3$$

$$269) \left(6\frac{1}{13}u + 5\frac{3}{5}v\right) \left(1\frac{1}{2}u^2 + \frac{2}{3}uv - 3\frac{1}{7}v^2\right)$$

$$9\frac{3}{26}u^3 + 12\frac{88}{195}u^2v - 15\frac{499}{1365}uv^2 - 17\frac{3}{5}v^3$$

$$270) \left(8\frac{1}{20}a - 1\frac{6}{19}b\right) \left(8\frac{3}{4}a^2 + 2\frac{13}{18}ab - 3\frac{12}{19}b^2\right)$$

$$70\frac{7}{16}a^3 + 10\frac{2741}{6840}a^2b - 32\frac{2791}{3420}ab^2 + 4\frac{281}{361}b^3$$

$$271) \left(1\frac{11}{17}x + 7\frac{1}{11}y\right) \left(\frac{9}{14}x^2 + 5\frac{10}{11}xy + \frac{6}{17}y^2\right)$$

$$1\frac{1}{17}x^3 + 14\frac{381}{1309}x^2y + 42\frac{16860}{34969}xy^2 + 2\frac{94}{187}y^3$$

$$272) \left(5\frac{5}{14}a + 9\frac{9}{10}b\right) \left(1\frac{7}{8}a^2 - \frac{3}{4}ab + 6\frac{3}{4}b^2\right)$$

$$10\frac{5}{112}a^3 + 14\frac{61}{112}a^2b + 28\frac{103}{140}ab^2 + 66\frac{33}{40}b^3$$

$$273) \left(2m - 2\frac{6}{7}n\right) \left(1\frac{1}{13}m^2 - 1\frac{5}{11}mn + 1\frac{2}{11}n^2\right)$$

$$2\frac{2}{13}m^3 - 5\frac{141}{143}m^2n + 6\frac{40}{77}mn^2 - 3\frac{29}{77}n^3$$

$$274) \left(2x + 1\frac{1}{8}y\right) \left(5\frac{6}{13}x^2 + 3\frac{1}{14}xy + 4\frac{17}{18}y^2\right)$$

$$10\frac{12}{13}x^3 + 12\frac{209}{728}x^2y + 13\frac{347}{1008}xy^2 + 5\frac{9}{16}y^3$$

$$275) \left(5\frac{7}{18}x + 3\frac{10}{17}y\right)\left(\frac{7}{11}x^2 + \frac{4}{5}xy + 5\frac{9}{10}y^2\right)$$

$$3\frac{85}{198}x^3 + 6\frac{5003}{8415}x^2y + 34\frac{407}{612}xy^2 + 21\frac{29}{170}y^3$$

$$276) \left(\frac{1}{9}m - \frac{2}{5}n\right)\left(3\frac{4}{11}m^2 + 1\frac{1}{4}mn - 1\frac{2}{5}n^2\right)$$

$$\frac{37}{99}m^3 - 1\frac{409}{1980}m^2n - \frac{59}{90}mn^2 + \frac{14}{25}n^3$$

$$277) \left(2x - 2\frac{1}{2}y\right)\left(\frac{3}{5}x^2 + 6\frac{10}{11}xy + 4\frac{4}{9}y^2\right)$$

$$1\frac{1}{5}x^3 + 12\frac{7}{22}x^2y - 8\frac{38}{99}xy^2 - 11\frac{1}{9}y^3$$

$$278) \left(1\frac{19}{20}x + 2\frac{1}{2}y\right)\left(12\frac{7}{9}x^2 - 19\frac{3}{17}xy + 8\frac{5}{6}y^2\right)$$

$$24\frac{11}{12}x^3 - 5\frac{344}{765}x^2y - 30\frac{487}{680}xy^2 + 22\frac{1}{12}y^3$$

$$279) \left(1\frac{5}{6}x + 3\frac{2}{9}y\right)\left(\frac{4}{5}x^2 + 5\frac{5}{16}xy - 2\frac{1}{6}y^2\right)$$

$$1\frac{7}{15}x^3 + 12\frac{457}{1440}x^2y + 13\frac{7}{48}xy^2 - 6\frac{53}{54}y^3$$

$$280) \left(y + 5\frac{9}{10}x\right)\left(1\frac{4}{9}x^2 + 8\frac{1}{6}xy + \frac{1}{10}y^2\right)$$

$$49\frac{113}{180}yx^2 + 8\frac{227}{300}y^2x + \frac{1}{10}y^3 + 8\frac{47}{90}x^3$$

$$281) \left(16u + 10\frac{7}{17}v\right)\left(7\frac{2}{3}u^2 + \frac{3}{4}uv - \frac{5}{6}v^2\right)$$

$$122\frac{2}{3}u^3 + 91\frac{14}{17}u^2v - 5\frac{107}{204}uv^2 - 8\frac{23}{34}v^3$$

$$282) \left(2u + \frac{14}{17}v\right)\left(2u^2 + 3\frac{5}{11}uv + 10\frac{1}{11}v^2\right)$$

$$4u^3 + 8\frac{104}{187}u^2v + 23\frac{5}{187}uv^2 + 8\frac{58}{187}v^3$$

$$283) \left(1\frac{1}{5}x + 7\frac{2}{7}y\right)\left(1\frac{2}{3}x^2 - 3\frac{3}{8}xy + 8\frac{1}{6}y^2\right)$$

$$2x^3 + 8\frac{13}{140}x^2y - 14\frac{221}{280}xy^2 + 59\frac{1}{2}y^3$$

$$284) \left(13x - \frac{5}{14}y\right)\left(1\frac{9}{10}x^2 + 5\frac{8}{11}xy - \frac{5}{13}y^2\right)$$

$$24\frac{7}{10}x^3 + 73\frac{239}{308}x^2y - 7\frac{1}{22}xy^2 + \frac{25}{182}y^3$$

$$285) \left(1\frac{5}{6}x + \frac{3}{4}y\right)\left(-19xy + 1\frac{1}{14}x^2 - 1\frac{7}{8}y^2\right)$$

$$-34\frac{5}{168}x^2y + 1\frac{27}{28}x^3 - 17\frac{11}{16}xy^2 - 1\frac{13}{32}y^3$$

$$286) \left(9\frac{1}{3}a - \frac{7}{20}b\right)\left(1\frac{1}{2}a^2 - 3\frac{12}{17}ab + 1\frac{3}{8}b^2\right)$$

$$14a^3 - 35\frac{77}{680}a^2b + 14\frac{133}{1020}ab^2 - \frac{77}{160}b^3$$

$$287) \left(2a + 1\frac{4}{5}b\right)\left(-13b^2 + 1\frac{3}{8}a^2 - \frac{3}{19}ab\right)$$

$$-26\frac{27}{95}ab^2 + 2\frac{3}{4}a^3 + 2\frac{121}{760}a^2b - 23\frac{2}{5}b^3$$

$$288) \left(x + 6\frac{1}{20}y\right)\left(1\frac{6}{7}x^2 - 1\frac{2}{5}xy + 2\frac{7}{9}y^2\right)$$

$$1\frac{6}{7}x^3 + 9\frac{117}{140}x^2y - 5\frac{623}{900}xy^2 + 16\frac{29}{36}y^3$$

$$289) \left(1\frac{1}{10}m + 5\frac{8}{19}n\right)\left(1\frac{3}{5}m^2 + 6\frac{1}{14}mn + 1\frac{2}{7}n^2\right)$$

$$1\frac{19}{25}m^3 + 15\frac{937}{2660}m^2n + 34\frac{218}{665}mn^2 + 6\frac{129}{133}n^3$$

$$290) \left(7\frac{5}{7}x - \frac{1}{6}y\right)\left(1\frac{9}{14}x^2 - \frac{2}{15}xy + 1\frac{12}{19}y^2\right)$$

$$12\frac{33}{49}x^3 - 1\frac{127}{420}x^2y + 12\frac{3643}{5985}xy^2 - \frac{31}{114}y^3$$

$$291) \left(m - \frac{5}{8}n\right)\left(13mn + 3\frac{5}{7}m^2 + 7\frac{3}{10}n^2\right)$$

$$10\frac{19}{28}m^2n + 3\frac{5}{7}m^3 - \frac{33}{40}mn^2 - 4\frac{9}{16}n^3$$

$$292) \left(6\frac{3}{14}x + 8\frac{13}{15}y\right)\left(-y^2 + 5\frac{7}{12}x^2 + 3\frac{4}{5}xy\right)$$

$$27\frac{503}{1050}xy^2 + 34\frac{39}{56}x^3 + 73\frac{151}{1260}x^2y - 8\frac{13}{15}y^3$$

$$293) \left(\frac{3}{11}x + 1\frac{2}{7}y\right)\left(3\frac{9}{13}x^2 + \frac{7}{18}xy + 6\frac{1}{16}y^2\right)$$

$$1\frac{1}{143}x^3 + 4\frac{5125}{6006}x^2y + 2\frac{27}{176}xy^2 + 7\frac{89}{112}y^3$$

$$294) \left(1\frac{3}{4}x + 5\frac{2}{5}y\right)\left(\frac{5}{6}x^2 + \frac{9}{14}xy + \frac{8}{9}y^2\right)$$

$$1\frac{11}{24}x^3 + 5\frac{5}{8}x^2y + 5\frac{17}{630}xy^2 + 4\frac{4}{5}y^3$$

$$295) \left(4x + 1\frac{3}{20}y\right)\left(7\frac{8}{11}x^2 + 10\frac{6}{19}xy + \frac{1}{3}y^2\right)$$

$$30\frac{10}{11}x^3 + 50\frac{125}{836}x^2y + 13\frac{56}{285}xy^2 + \frac{23}{60}y^3$$

$$296) \left(4\frac{1}{12}x - 1\frac{2}{5}y\right)\left(6\frac{13}{16}x^2 + 2\frac{8}{11}xy - \frac{13}{15}y^2\right)$$

$$27\frac{157}{192}x^3 + 1\frac{527}{880}x^2y - 7\frac{707}{1980}xy^2 + 1\frac{16}{75}y^3$$

$$297) \left(1\frac{2}{15}u - 1\frac{2}{3}v\right)\left(6v^2 + 9\frac{1}{18}u^2 + 8\frac{8}{9}uv\right)$$

$$-8\frac{2}{135}uv^2 + 10\frac{71}{270}u^3 - 5\frac{1}{54}u^2v - 10v^3$$

$$298) \left(v + \frac{3}{5}u\right)\left(v^2 + \frac{7}{11}u^2 - 3\frac{1}{6}uv\right)$$

$$v^3 - 1\frac{29}{110}vu^2 - 2\frac{17}{30}v^2u + \frac{21}{55}u^3$$

$$299) \left(3\frac{4}{19}x + 18\frac{14}{19}y\right)\left(7\frac{7}{16}x^2 - \frac{6}{7}xy + 1\frac{1}{2}y^2\right)$$

$$23\frac{267}{304}x^3 + 136\frac{321}{532}x^2y - 11\frac{65}{266}xy^2 + 28\frac{2}{19}y^3$$

$$300) \left(\frac{3}{16}a + 2\frac{3}{17}b\right)\left(9\frac{2}{3}a^2 + 6\frac{11}{14}ab - 2\frac{4}{5}b^2\right)$$

$$1\frac{13}{16}a^3 + 22\frac{3559}{11424}a^2b + 14\frac{1161}{4760}ab^2 - 6\frac{8}{85}b^3$$

$$301) \left(1\frac{43}{44}a - 1\frac{8}{13}b\right)\left(1\frac{27}{28}a^2 + 1\frac{17}{43}ab + \frac{24}{31}b^2\right)$$

$$3\frac{99}{112}a^3 - \frac{10185}{24596}a^2b - \frac{137862}{190619}ab^2 - 1\frac{101}{403}b^3$$

$$302) \left(\frac{8}{9}x + \frac{13}{17}y\right)\left(\frac{16}{17}x^2 + 1\frac{4}{11}xy - \frac{9}{32}y^2\right)$$

$$\frac{128}{153}x^3 + 1\frac{8887}{9537}x^2y + \frac{593}{748}xy^2 - \frac{117}{544}y^3$$

$$303) \left(25\frac{13}{16}m + 15\frac{24}{41}n\right)\left(33m^2 - 2\frac{3}{4}mn + \frac{2}{9}n^2\right)$$

$$851\frac{13}{16}m^3 + 443\frac{873}{2624}m^2n - 37\frac{365}{2952}mn^2 + 3\frac{19}{41}n^3$$

$$304) \left(\frac{35}{48}x - 3\frac{19}{42}y\right)\left(46x^2 + 25\frac{1}{5}xy + \frac{7}{19}y^2\right)$$

$$33\frac{13}{24}x^3 - 140\frac{73}{168}x^2y - 86\frac{667}{912}xy^2 - 1\frac{31}{114}y^3$$

$$305) \left(9x + 1\frac{1}{4}y\right)\left(1\frac{11}{24}x^2 + 1\frac{3}{20}xy + 24\frac{5}{11}y^2\right)$$

$$13\frac{1}{8}x^3 + 12\frac{83}{480}x^2y + 221\frac{93}{176}xy^2 + 30\frac{25}{44}y^3$$

$$306) \left(15\frac{1}{6}x + 1\frac{11}{40}y\right)\left(17\frac{1}{13}x^2 - 1\frac{3}{14}xy - \frac{6}{11}y^2\right)$$

$$259x^3 + 3\frac{139}{390}x^2y - 9\frac{5057}{6160}xy^2 - \frac{153}{220}y^3$$

$$307) \left(31\frac{1}{2}m - \frac{8}{15}n\right)\left(17\frac{29}{36}m^2 - \frac{15}{29}mn + 1\frac{16}{29}n^2\right)$$

$$560\frac{7}{8}m^3 - 25\frac{6181}{7830}m^2n + 49\frac{9}{58}mn^2 - \frac{24}{29}n^3$$

$$308) \left(1\frac{2}{3}x - \frac{2}{11}y\right)\left(24\frac{30}{31}x^2 - \frac{5}{6}xy + 9\frac{3}{4}y^2\right)$$

$$41\frac{19}{31}x^3 - 5\frac{5699}{6138}x^2y + 16\frac{53}{132}xy^2 - 1\frac{17}{22}y^3$$

$$309) \left(23\frac{34}{41}u + 12\frac{1}{14}v\right)\left(1\frac{6}{11}u^2 + 18\frac{47}{49}uv + 22\frac{5}{11}v^2\right)$$

$$36\frac{373}{451}u^3 + 470\frac{19417}{44198}u^2v + 763\frac{290767}{309386}uv^2 + 271\frac{9}{154}v^3$$

$$310) \left(1\frac{14}{45}x - 3\frac{11}{20}y\right)\left(15\frac{1}{3}x^2 + 14\frac{7}{11}xy + \frac{2}{21}y^2\right)$$

$$20\frac{14}{135}x^3 - 35\frac{241}{990}x^2y - 51\frac{34687}{41580}xy^2 - \frac{71}{210}y^3$$

$$311) \left(8\frac{9}{14}u + 9\frac{3}{4}v\right)\left(1\frac{5}{8}u^2 + 4\frac{7}{23}uv + \frac{15}{34}v^2\right)$$

$$14\frac{5}{112}u^3 + 53\frac{235}{5152}u^2v + 45\frac{2136}{2737}uv^2 + 4\frac{41}{136}v^3$$

$$313) \left(1\frac{7}{12}u + 3\frac{4}{9}v\right)\left(1\frac{2}{5}u^2 + \frac{2}{3}uv + \frac{24}{31}v^2\right)$$

$$2\frac{13}{60}u^3 + 5\frac{79}{90}u^2v + 3\frac{437}{837}uv^2 + 2\frac{2}{3}v^3$$

$$315) \left(1\frac{13}{21}a + 1\frac{6}{11}b\right)\left(19\frac{39}{46}a^2 - \frac{5}{14}ab - 2\frac{4}{37}b^2\right)$$

$$32\frac{65}{483}a^3 + 30\frac{647}{6762}a^2b - 3\frac{5499}{5698}ab^2 - 3\frac{105}{407}b^3$$

$$316) \left(11x - 1\frac{1}{39}y\right)\left(7\frac{7}{36}x^2 + 8\frac{3}{10}xy - \frac{43}{48}y^2\right)$$

$$79\frac{5}{36}x^3 + 83\frac{3233}{3510}x^2y - 18\frac{229}{624}xy^2 + \frac{215}{234}y^3$$

$$318) \left(25\frac{1}{11}x + 15\frac{24}{25}y\right)\left(23\frac{3}{5}x^2 - 1\frac{4}{39}xy + 1\frac{1}{2}y^2\right)$$

$$592\frac{8}{55}x^3 + 348\frac{17726}{17875}x^2y + 20\frac{141}{3575}xy^2 + 23\frac{47}{50}y^3$$

$$319) \left(\frac{3}{7}m + 6\frac{7}{24}n\right)\left(-21mn + 1\frac{41}{48}m^2 - \frac{10}{31}n^2\right)$$

$$2\frac{767}{1152}m^2n + \frac{89}{112}m^3 - 132\frac{457}{1736}mn^2 - 2\frac{11}{372}n^3$$

$$321) \left(2\frac{3}{14}m + 1\frac{7}{8}n\right)\left(3\frac{29}{43}m^2 - 3\frac{5}{6}mn + 22\frac{6}{19}n^2\right)$$

$$8\frac{41}{301}m^3 - 1\frac{1081}{1806}m^2n + 42\frac{481}{2128}mn^2 + 41\frac{16}{19}n^3$$

$$322) \left(1\frac{11}{35}x + 2\frac{11}{26}y\right)\left(1\frac{13}{43}x^2 - 1\frac{9}{50}xy + 26\frac{7}{13}y^2\right)$$

$$1\frac{153}{215}x^3 + 1\frac{295812}{489125}x^2y + 32\frac{181}{9100}xy^2 + 64\frac{103}{338}y^3$$

$$323) \left(\frac{8}{9}x + 5\frac{2}{13}y\right)\left(20\frac{2}{9}x^2 + \frac{3}{31}xy - 1\frac{1}{2}y^2\right)$$

$$17\frac{79}{81}x^3 + 104\frac{86}{279}x^2y - \frac{1009}{1209}xy^2 - 7\frac{19}{26}y^3$$

$$312) \left(\frac{12}{31}x + \frac{1}{2}y\right)\left(\frac{1}{12}x^2 - \frac{12}{13}xy - 3\frac{23}{40}y^2\right)$$

$$\frac{1}{31}x^3 - \frac{3053}{9672}x^2y - 1\frac{3407}{4030}xy^2 - 1\frac{63}{80}y^3$$

$$314) \left(8\frac{1}{4}x + 15\frac{8}{15}y\right)\left(\frac{13}{18}x^2 + 3\frac{11}{42}xy + 3\frac{5}{18}y^2\right)$$

$$5\frac{23}{24}x^3 + 38\frac{977}{7560}x^2y + 77\frac{1789}{2520}xy^2 + 50\frac{247}{270}y^3$$

$$317) \left(1\frac{6}{7}a + \frac{38}{47}b\right)\left(12\frac{17}{36}a^2 - 1\frac{1}{29}ab + 1\frac{11}{24}b^2\right)$$

$$23\frac{41}{252}a^3 + 8\frac{27949}{171738}a^2b + 1\frac{28523}{32712}ab^2 + 1\frac{101}{564}b^3$$

$$320) \left(\frac{5}{23}x + 11\frac{17}{36}y\right)\left(-xy + 23\frac{3}{20}x^2 - \frac{1}{7}y^2\right)$$

$$265\frac{6037}{16560}x^2y + 5\frac{3}{92}x^3 - 11\frac{2917}{5796}xy^2 - 1\frac{23}{36}y^3$$

$$324) \left(\frac{1}{4}u - 1\frac{15}{38}v\right)\left(uv + 7\frac{27}{50}u^2 + \frac{7}{10}v^2\right)$$

$$-10\frac{253}{950}u^2v + 1\frac{177}{200}u^3 - 1\frac{167}{760}uv^2 - \frac{371}{380}v^3$$

$$325) \left(19\frac{3}{8}x + 21\frac{8}{47}y\right) \left(1\frac{12}{37}x^2 + 3\frac{1}{22}xy - \frac{2}{5}y^2\right) \quad 326) \left(-y + \frac{42}{43}x\right) \left(\frac{1}{7}x^2 - 1\frac{15}{34}xy + 18\frac{25}{44}y^2\right)$$

$$25\frac{195}{296}x^3 + 87\frac{12827}{306064}x^2y + 56\frac{1495}{2068}xy^2 - 8\frac{22}{47}y^3 \quad -1\frac{2817}{5117}yx^2 + 19\frac{108}{187}y^2x - 18\frac{25}{44}y^3 + \frac{6}{43}x^3$$

$$327) \left(9\frac{22}{25}u + 4\frac{7}{11}v\right) \left(-2uv + 15\frac{37}{42}u^2 - 1\frac{42}{43}v^2\right)$$

$$53\frac{3349}{3850}u^2v + 156\frac{949}{1050}u^3 - 28\frac{1899}{2365}uv^2 - 9\frac{78}{473}v^3$$

$$328) \left(19\frac{3}{11}u + 25\frac{5}{14}v\right) \left(4\frac{3}{10}u^2 + 7\frac{29}{36}uv + 1\frac{29}{42}v^2\right)$$

$$82\frac{48}{55}u^3 + 259\frac{1303}{2772}u^2v + 230\frac{2809}{5544}uv^2 + 42\frac{509}{588}v^3$$

$$329) \left(9\frac{11}{15}x - 1\frac{6}{25}y\right) \left(3\frac{1}{45}x^2 + 14\frac{16}{21}xy - 1\frac{11}{17}y^2\right)$$

$$29\frac{281}{675}x^3 + 139\frac{7363}{7875}x^2y - 34\frac{40}{119}xy^2 + 2\frac{18}{425}y^3$$

$$330) \left(1\frac{19}{33}a - \frac{1}{2}b\right) \left(8\frac{9}{20}a^2 - 1\frac{35}{48}ab + \frac{28}{31}b^2\right)$$

$$13\frac{52}{165}a^3 - 6\frac{3761}{3960}a^2b + 2\frac{3141}{10912}ab^2 - \frac{14}{31}b^3$$

$$331) \left(4\frac{41}{50}x + 17\frac{14}{15}y\right) \left(16\frac{3}{13}x^2 + 7\frac{3}{20}xy + 1\frac{1}{2}y^2\right)$$

$$78\frac{151}{650}x^3 + 325\frac{20857}{39000}x^2y + 135\frac{34}{75}xy^2 + 26\frac{9}{10}y^3$$

$$332) \left(1\frac{5}{6}a + 5\frac{6}{29}b\right) \left(ab + 1\frac{3}{16}a^2 - 1\frac{1}{19}b^2\right) \quad 333) \left(8\frac{10}{23}x + 1\frac{3}{16}y\right) \left(\frac{3}{49}x^2 + \frac{27}{29}xy + 24\frac{32}{35}y^2\right)$$

$$8\frac{23}{1392}a^2b + 2\frac{17}{96}a^3 + 3\frac{458}{1653}ab^2 - 5\frac{265}{551}b^3 \quad \frac{582}{1127}x^3 + 7\frac{484115}{522928}x^2y + 211\frac{94197}{373520}xy^2 + 29\frac{41}{70}y^3$$

$$334) \left(1\frac{17}{20}m - 1\frac{1}{3}n\right) \left(\frac{37}{50}m^2 - 1\frac{17}{31}mn + 22\frac{37}{45}n^2\right)$$

$$1\frac{369}{1000}m^3 - 3\frac{1979}{2325}m^2n + 44\frac{7969}{27900}mn^2 - 30\frac{58}{135}n^3$$

$$335) \left(\frac{5}{8}x - 1\frac{1}{3}y\right) \left(21\frac{16}{45}x^2 + 1\frac{17}{44}xy + \frac{5}{7}y^2\right) \quad 336) \left(25\frac{1}{26}m + 1\frac{2}{11}n\right) \left(49m^2 + \frac{2}{5}mn + 9\frac{15}{22}n^2\right)$$

$$13\frac{25}{72}x^3 - 27\frac{28873}{47520}x^2y - 1\frac{743}{1848}xy^2 - \frac{20}{21}y^3 \quad 1226\frac{23}{26}m^3 + 67\frac{661}{715}m^2n + 242\frac{2547}{2860}mn^2 + 11\frac{107}{242}n^3$$

$$337) \left(1\frac{2}{3}x + 1\frac{2}{11}y\right) \left(15\frac{17}{35}x^2 + \frac{5}{11}xy + 6\frac{17}{48}y^2\right) \quad 338) \left(14\frac{13}{47}x + 2\frac{1}{2}y\right) \left(1\frac{13}{16}x^2 - \frac{1}{7}xy + 7\frac{7}{9}y^2\right)$$

$$25\frac{17}{21}x^3 + 19\frac{68}{1155}x^2y + 11\frac{2221}{17424}xy^2 + 7\frac{269}{528}y^3 \quad 25\frac{659}{752}x^3 + 2\frac{5177}{10528}x^2y + 110\frac{4045}{5922}xy^2 + 19\frac{4}{9}y^3$$

$$339) \left(\frac{3}{5}u + 14\frac{3}{7}v\right)\left(\frac{16}{43}u^2 + 1\frac{9}{13}uv - \frac{1}{2}v^2\right)$$

$$\frac{48}{215}u^3 + 6\frac{7516}{19565}u^2v + 24\frac{107}{910}uv^2 - 7\frac{3}{14}v^3$$

$$340) \left(25\frac{11}{20}x + 1\frac{3}{5}y\right)\left(12\frac{29}{40}x^2 - 1\frac{14}{39}xy + 18\frac{9}{17}y^2\right)$$

$$325\frac{99}{800}x^3 - 14\frac{1411}{3900}x^2y + 471\frac{3343}{13260}xy^2 + 29\frac{11}{17}y^3$$

$$341) \left(17\frac{32}{37}u + 1\frac{18}{31}v\right)\left(1\frac{5}{28}u^2 + 10\frac{5}{8}uv - 5\frac{17}{29}v^2\right)$$

$$21\frac{57}{1036}u^3 + 191\frac{6213}{9176}u^2v - 83\frac{659}{266104}uv^2 - 8\frac{746}{899}v^3$$

$$342) \left(x + 23\frac{37}{45}y\right)\left(1\frac{4}{7}x^2 + 7\frac{3}{20}xy - \frac{2}{3}y^2\right)$$

$$1\frac{4}{7}x^3 + 44\frac{737}{1260}x^2y + 169\frac{149}{225}xy^2 - 15\frac{119}{135}y^3$$

$$343) \left(2\frac{2}{23}u - \frac{16}{21}v\right)\left(41\frac{5}{6}u^2 + \frac{3}{10}uv + 3\frac{2}{3}v^2\right)$$

$$87\frac{7}{23}u^3 - 31\frac{1789}{7245}u^2v + 7\frac{341}{805}uv^2 - 2\frac{50}{63}v^3$$

$$344) \left(47\frac{21}{44}a + 23\frac{14}{23}b\right)\left(11ab + 10\frac{19}{22}a^2 + 15\frac{20}{49}b^2\right)$$

$$778\frac{735}{1012}a^2b + 515\frac{751}{968}a^3 + 991\frac{11565}{49588}ab^2 + 363\frac{864}{1127}b^3$$

$$345) \left(\frac{26}{27}x - \frac{6}{11}y\right)\left(22\frac{5}{49}x^2 + 8\frac{19}{22}xy - 1\frac{37}{48}y^2\right)$$

$$21\frac{125}{441}x^3 - 3\frac{2524}{4851}x^2y - 6\frac{42337}{78408}xy^2 + \frac{85}{88}y^3$$

$$346) \left(1\frac{1}{15}a + \frac{5}{11}b\right)\left(1\frac{10}{17}a^2 + 21\frac{1}{19}ab - 1\frac{15}{17}b^2\right)$$

$$1\frac{59}{85}a^3 + 23\frac{1898}{10659}a^2b + 7\frac{29927}{53295}ab^2 - \frac{160}{187}b^3$$

$$347) \left(-4y + 14\frac{21}{34}x\right)\left(1\frac{4}{17}x^2 + 17\frac{6}{31}xy - 24\frac{15}{26}y^2\right)$$

$$246\frac{409}{1054}yx^2 - 428\frac{849}{27404}y^2x + 98\frac{4}{13}y^3 + 18\frac{33}{578}x^3$$

$$348) \left(1\frac{12}{13}x + 22\frac{9}{47}y\right)\left(1\frac{15}{34}x^2 + 1\frac{1}{19}xy - 1\frac{7}{24}y^2\right)$$

$$2\frac{341}{442}x^3 + 34\frac{2425}{394706}x^2y + 20\frac{243925}{278616}xy^2 - 28\frac{749}{1128}y^3$$

$$349) \left(m + 14\frac{15}{23}n\right)\left(12\frac{22}{49}m^2 + 4\frac{11}{12}mn - 1\frac{25}{42}n^2\right)$$

$$12\frac{22}{49}m^3 + 187\frac{4345}{13524}m^2n + 70\frac{859}{1932}mn^2 - 23\frac{361}{966}n^3$$

$$350) \left(1\frac{19}{42}x + 21\frac{4}{9}y\right)\left(32y^2 + \frac{1}{3}x^2 - \frac{29}{45}xy\right)$$

$$32\frac{1861}{2835}xy^2 + \frac{61}{126}x^3 + 6\frac{401}{1890}x^2y + 686\frac{2}{9}y^3$$

$$351) \left(24\frac{17}{20}x + 11\frac{28}{29}y\right)\left(2\frac{36}{47}x^2 + 1\frac{1}{4}xy + 9\frac{13}{24}y^2\right)$$

$$68\frac{69}{94}x^3 + 64\frac{3459}{21808}x^2y + 252\frac{937}{13920}xy^2 + 114\frac{119}{696}y^3$$

$$352) \left(\frac{24}{37}m - \frac{34}{49}n\right)\left(1\frac{4}{7}m^2 + \frac{13}{14}mn + 14\frac{11}{47}n^2\right)$$

$$1\frac{5}{259}m^3 - \frac{6194}{12691}m^2n + 8\frac{351073}{596477}mn^2 - 9\frac{2019}{2303}n^3$$

$$353) \left(23\frac{7}{10}x + 1\frac{2}{3}y\right)\left(1\frac{1}{4}x^2 + 8\frac{23}{49}xy + \frac{3}{7}y^2\right)$$

$$29\frac{5}{8}x^3 + 202\frac{475}{588}x^2y + 24\frac{401}{1470}xy^2 + \frac{5}{7}y^3$$

$$354) \left(\frac{8}{27}u - 1\frac{13}{38}v\right)\left(14\frac{47}{48}u^2 + \frac{27}{38}uv - 1\frac{7}{15}v^2\right)$$

$$4\frac{71}{162}u^3 - 19\frac{543}{608}u^2v - 1\frac{227009}{584820}uv^2 + 1\frac{92}{95}v^3$$

$$355) \left(2y + 8\frac{29}{44}x\right)\left(2x^2 + 1\frac{1}{8}xy + 4\frac{5}{26}y^2\right)$$

$$13\frac{261}{352}yx^2 + 38\frac{631}{1144}y^2x + 8\frac{5}{13}y^3 + 17\frac{7}{22}x^3$$

$$356) \left(18\frac{19}{49}u - 1\frac{7}{19}v\right)\left(43uv + 22\frac{23}{40}u^2 + \frac{3}{4}v^2\right)$$

$$759\frac{14549}{18620}u^2v + 415\frac{29}{280}u^3 - 45\frac{191}{3724}uv^2 - 1\frac{1}{38}v^3$$

$$357) \left(11\frac{14}{17}x + 1\frac{2}{15}y\right)\left(\frac{3}{5}x^2 - \frac{21}{22}xy - \frac{2}{19}y^2\right)$$

$$7\frac{8}{85}x^3 - 10\frac{5667}{9350}x^2y - 2\frac{11597}{35530}xy^2 - \frac{34}{285}y^3$$

$$358) \left(\frac{6}{17}u + 17\frac{27}{40}v\right)\left(1\frac{9}{22}u^2 + 9\frac{13}{46}uv + 16\frac{1}{42}v^2\right)$$

$$\frac{93}{187}u^3 + 28\frac{62587}{344080}u^2v + 169\frac{158871}{218960}uv^2 + 283\frac{53}{240}v^3$$

$$359) \left(\frac{19}{39}x - 1\frac{1}{4}y\right)\left(\frac{2}{15}x^2 + 6\frac{17}{27}xy + 1\frac{5}{7}y^2\right)$$

$$\frac{38}{585}x^3 + 3\frac{133}{2106}x^2y - 7\frac{4441}{9828}xy^2 - 2\frac{1}{7}y^3$$

$$360) \left(y + \frac{1}{3}x\right)\left(19\frac{11}{14}x^2 + 1\frac{11}{26}xy + 14\frac{17}{20}y^2\right)$$

$$20\frac{71}{273}yx^2 + 6\frac{97}{260}y^2x + 14\frac{17}{20}y^3 + 6\frac{25}{42}x^3$$

$$361) \left(14\frac{1}{7}a + 2\frac{11}{30}b\right)\left(-47ab + 15\frac{1}{9}a^2 + 19\frac{17}{50}b^2\right)$$

$$-628\frac{899}{945}a^2b + 213\frac{5}{7}a^3 + 162\frac{152}{525}ab^2 + 45\frac{1157}{1500}b^3$$

$$362) \left(\frac{19}{42}a + 5\frac{26}{29}b\right)\left(1\frac{7}{17}a^2 + 4\frac{2}{27}ab + \frac{2}{9}b^2\right)$$

$$\frac{76}{119}a^3 + 10\frac{46843}{279531}a^2b + 24\frac{677}{5481}ab^2 + 1\frac{9}{29}b^3$$

$$363) \left(17\frac{25}{46}x + \frac{8}{23}y\right)\left(14\frac{12}{19}x^2 - 2\frac{7}{11}xy + 1\frac{1}{2}y^2\right)$$

$$256\frac{301}{437}x^3 - 41\frac{1555}{9614}x^2y + 25\frac{403}{1012}xy^2 + \frac{12}{23}y^3$$

$$364) \left(\frac{6}{7}m + \frac{4}{5}n \right) \left(1 \frac{47}{48}m^2 + 25 \frac{1}{2}mn - \frac{1}{7}n^2 \right)$$

$$1 \frac{39}{56}m^3 + 23 \frac{37}{84}m^2n + 20 \frac{68}{245}mn^2 - \frac{4}{35}n^3$$

$$365) \left(\frac{27}{32}x + 17 \frac{38}{43}y \right) \left(23 \frac{7}{8}x^2 - 21 \frac{22}{27}xy - \frac{1}{15}y^2 \right)$$

$$20 \frac{37}{256}x^3 + 408 \frac{781}{1376}x^2y - 390 \frac{34609}{185760}xy^2 - 1 \frac{124}{645}y^3$$

$$366) \left(1 \frac{18}{49}m + 1 \frac{20}{31}n \right) \left(20 \frac{1}{9}m^2 + 6 \frac{1}{4}mn - \frac{1}{4}n^2 \right)$$

$$27 \frac{220}{441}m^3 + 41 \frac{11519}{18228}m^2n + 9 \frac{2857}{3038}mn^2 - \frac{51}{124}n^3$$

$$367) \left(5 \frac{1}{4}x - 1 \frac{2}{3}y \right) \left(\frac{1}{31}x^2 + 16 \frac{19}{24}xy + \frac{1}{2}y^2 \right)$$

$$\frac{21}{124}x^3 + 88 \frac{305}{2976}x^2y - 25 \frac{13}{36}xy^2 - \frac{5}{6}y^3$$

$$368) \left(3 \frac{7}{22}x + 13 \frac{8}{15}y \right) \left(14x^2 - \frac{47}{49}xy + 19 \frac{13}{18}y^2 \right)$$

$$46 \frac{5}{11}x^3 + 186 \frac{4591}{16170}x^2y + 52 \frac{6389}{13860}xy^2 + 266 \frac{49}{54}y^3$$

$$369) \left(\frac{25}{39}u + 15 \frac{7}{20}v \right) \left(6 \frac{7}{8}u^2 + 14 \frac{1}{11}uv + \frac{17}{33}v^2 \right)$$

$$4 \frac{127}{312}u^3 + 114 \frac{7741}{13728}u^2v + 216 \frac{3221}{5148}uv^2 + 7 \frac{599}{660}v^3$$

$$370) \left(\frac{1}{6}u - 1 \frac{27}{32}v \right) \left(37u^2 + 1 \frac{3}{4}uv - 1 \frac{7}{11}v^2 \right)$$

$$6 \frac{1}{6}u^3 - 67 \frac{89}{96}u^2v - 3 \frac{703}{1408}uv^2 + 3 \frac{3}{176}v^3$$

$$371) \left(8 \frac{1}{7}x - 1 \frac{7}{19}y \right) \left(46x^2 + 15 \frac{15}{34}xy - 1 \frac{22}{31}y^2 \right)$$

$$374 \frac{4}{7}x^3 + 62 \frac{509}{646}x^2y - 35 \frac{3623}{70091}xy^2 + 2 \frac{200}{589}y^3$$

$$372) \left(19 \frac{16}{29}x - 1 \frac{4}{11}y \right) \left(-2y^2 + 6 \frac{18}{41}x^2 - 40 \frac{3}{46}xy \right)$$

$$15 \frac{7791}{14674}xy^2 + 125 \frac{1063}{1189}x^3 - 792 \frac{6813}{54694}x^2y + 2 \frac{8}{11}y^3$$

$$373) \left(\frac{1}{2}a + \frac{2}{3}b \right) \left(23a^2 + 1 \frac{4}{5}ab - \frac{7}{30}b^2 \right)$$

$$11 \frac{1}{2}a^3 + 16 \frac{7}{30}a^2b + 1 \frac{1}{12}ab^2 - \frac{7}{45}b^3$$

$$374) \left(1 \frac{11}{50}x - \frac{1}{2}y \right) \left(1 \frac{36}{47}x^2 - \frac{4}{7}xy - 1 \frac{5}{11}y^2 \right)$$

$$2 \frac{363}{2350}x^3 - 1 \frac{9543}{16450}x^2y - 1 \frac{941}{1925}xy^2 + \frac{8}{11}y^3$$

$$375) \left(23 \frac{18}{19}a + 14 \frac{5}{37}b \right) \left(\frac{25}{42}a^2 + 1 \frac{26}{37}ab - 1 \frac{14}{31}b^2 \right)$$

$$14 \frac{29}{114}a^3 + 49 \frac{5581}{29526}a^2b - 10 \frac{559904}{806341}ab^2 - 20 \frac{595}{1147}b^3$$

$$376) \left(29x + 22 \frac{9}{14}y \right) \left(\frac{1}{2}x^2 + \frac{1}{2}xy - \frac{4}{29}y^2 \right)$$

$$14 \frac{1}{2}x^3 + 25 \frac{23}{28}x^2y + 7 \frac{9}{28}xy^2 - 3 \frac{25}{203}y^3$$

$$377) \left(\frac{1}{4}a + 1 \frac{39}{40}b \right) \left(8 \frac{22}{37}a^2 - 1 \frac{8}{11}ab + 1 \frac{3}{10}b^2 \right)$$

$$2 \frac{11}{74}a^3 + 16 \frac{1104}{2035}a^2b - 3 \frac{19}{220}ab^2 + 2 \frac{227}{400}b^3$$

$$378) \left(-2n + 10 \frac{23}{26}m \right) \left(24 \frac{11}{19}m^2 + 13 \frac{11}{46}mn - 1 \frac{17}{46}n^2 \right)$$

$$94 \frac{21473}{22724}nm^2 - 41 \frac{461}{1196}n^2m + 2 \frac{17}{23}n^3 + 267 \frac{263}{494}m^3$$

$$\begin{aligned}
379) & \left(1\frac{24}{43}x + 1\frac{38}{49}y\right)\left(\frac{1}{18}x^2 + 12\frac{3}{28}xy - \frac{1}{3}y^2\right) & 380) & \left(1\frac{1}{3}x + 16\frac{3}{23}y\right)\left(31x^2 - 27xy + \frac{17}{28}y^2\right) \\
& \frac{67}{774}x^3 + 18\frac{24355}{25284}x^2y + 20\frac{172913}{176988}xy^2 - \frac{29}{49}y^3 & & 41\frac{1}{3}x^3 + 464\frac{1}{23}x^2y - 434\frac{344}{483}xy^2 + 9\frac{73}{92}y^3 \\
381) & \left(\frac{11}{12}m + 8\frac{10}{13}n\right)\left(25\frac{37}{50}m^2 + \frac{1}{2}mn + \frac{28}{45}n^2\right) & 382) & \left(-2y + \frac{31}{33}x\right)\left(2x^2 - \frac{24}{31}xy + 18\frac{1}{6}y^2\right) \\
& 23\frac{119}{200}m^3 + 226\frac{107}{600}m^2n + 4\frac{1676}{1755}mn^2 + 5\frac{89}{195}n^3 & & -4\frac{8}{11}yx^2 + 18\frac{3769}{6138}y^2x - 36\frac{1}{3}y^3 + 1\frac{29}{33}x^3 \\
383) & \left(14\frac{9}{16}x + 4\frac{7}{10}y\right)\left(1\frac{11}{20}x^2 + 4\frac{1}{12}xy + 13\frac{20}{31}y^2\right) & & \\
& 22\frac{183}{320}x^3 + 66\frac{3593}{4800}x^2y + 217\frac{6691}{7440}xy^2 + 64\frac{41}{310}y^3 & & \\
384) & \left(2x + 29\frac{1}{2}y\right)\left(-2xy + 2\frac{3}{4}x^2 + 21\frac{3}{17}y^2\right) & 385) & \left(\frac{1}{2}u + 10\frac{35}{48}v\right)\left(-34v^2 + 1\frac{14}{27}u^2 - 2\frac{2}{5}uv\right) \\
& 77\frac{1}{8}x^2y + 5\frac{1}{2}x^3 - 16\frac{11}{17}xy^2 + 624\frac{12}{17}y^3 & & -42\frac{3}{4}uv^2 + \frac{41}{54}u^3 + 15\frac{599}{6480}u^2v - 364\frac{19}{24}v^3 \\
386) & \left(32x + \frac{11}{13}y\right)\left(1\frac{26}{47}x^2 - 1\frac{17}{28}xy - \frac{3}{11}y^2\right) & 387) & \left(1\frac{2}{9}a + 12\frac{29}{40}b\right)\left(\frac{7}{30}a^2 + 15\frac{1}{19}ab + \frac{4}{11}b^2\right) \\
& 49\frac{33}{47}x^3 - 50\frac{489}{4277}x^2y - 10\frac{349}{4004}xy^2 - \frac{3}{13}y^3 & & \frac{77}{270}a^3 + 21\frac{25091}{68400}a^2b + 191\frac{3383}{3420}ab^2 + 4\frac{69}{110}b^3 \\
388) & \left(2v + 10\frac{10}{23}u\right)\left(8\frac{3}{10}u^2 + 20\frac{43}{46}uv + \frac{15}{31}v^2\right) & & \\
& 235\frac{132}{2645}vu^2 + 46\frac{655}{713}v^2u + \frac{30}{31}v^3 + 86\frac{14}{23}u^3 & & \\
389) & \left(-21y + 5\frac{12}{13}x\right)\left(16\frac{4}{7}x^2 - 1\frac{19}{33}xy + 1\frac{26}{47}y^2\right) & & \\
& -357\frac{1}{3}yx^2 + 42\frac{1953}{6721}y^2x - 32\frac{29}{47}y^3 + 98\frac{2}{13}x^3 & & \\
390) & \left(16\frac{13}{48}x + 16\frac{11}{21}y\right)\left(1\frac{9}{25}x^2 + 7\frac{3}{20}xy + \frac{1}{2}y^2\right) & & \\
& 22\frac{77}{600}x^3 + 138\frac{9059}{11200}x^2y + 126\frac{943}{3360}xy^2 + 8\frac{11}{42}y^3 & & \\
391) & \left(\frac{1}{2}x - 1\frac{4}{5}y\right)\left(8\frac{1}{2}x^2 + 22\frac{5}{8}xy + 7\frac{17}{23}y^2\right) & 392) & \left(a + 7\frac{19}{42}b\right)\left(10\frac{1}{24}a^2 + 11\frac{13}{16}ab + 18\frac{2}{21}b^2\right) \\
& 4\frac{1}{4}x^3 - 3\frac{79}{80}x^2y - 36\frac{787}{920}xy^2 - 13\frac{107}{115}y^3 & & 10\frac{1}{24}a^3 + 86\frac{163}{252}a^2b + 106\frac{85}{672}ab^2 + 134\frac{376}{441}b^3 \\
393) & \left(2x + 25\frac{17}{18}y\right)\left(\frac{29}{32}x^2 + \frac{1}{19}xy + \frac{21}{25}y^2\right) & 394) & \left(1\frac{5}{6}a + \frac{1}{2}b\right)\left(10\frac{10}{17}a^2 - \frac{6}{25}ab + 22\frac{2}{15}b^2\right) \\
& 1\frac{13}{16}x^3 + 23\frac{6757}{10944}x^2y + 3\frac{389}{8550}xy^2 + 21\frac{119}{150}y^3 & & 19\frac{7}{17}a^3 + 4\frac{363}{425}a^2b + 40\frac{103}{225}ab^2 + 11\frac{1}{15}b^3
\end{aligned}$$

$$395) \left(20\frac{17}{38}m - 1\frac{29}{41}n\right) \left(13\frac{9}{10}m^2 + 1\frac{25}{29}mn + 1\frac{7}{40}n^2\right)$$

$$284\frac{83}{380}m^3 + 14\frac{7742}{22591}m^2n + 20\frac{1529891}{1807280}mn^2 - 2\frac{1}{164}n^3$$

$$396) \left(\frac{16}{23}m - 1\frac{16}{31}n\right) \left(16m^2 - \frac{4}{7}mn - 2\frac{16}{23}n^2\right)$$

$$11\frac{3}{23}m^3 - 24\frac{3272}{4991}m^2n - 1\frac{1019}{114793}mn^2 + 4\frac{2}{23}n^3$$

$$397) \left(23\frac{11}{28}x + 15\frac{11}{17}y\right) \left(\frac{1}{11}x^2 + 17\frac{2}{5}xy - \frac{31}{33}y^2\right)$$

$$2\frac{39}{308}x^3 + 408\frac{2399}{5236}x^2y + 250\frac{22283}{78540}xy^2 - 14\frac{392}{561}y^3$$

$$398) \left(25\frac{6}{13}u + 1\frac{3}{5}v\right) \left(4\frac{39}{44}u^2 + \frac{6}{23}uv + 22\frac{13}{29}v^2\right)$$

$$124\frac{237}{572}u^3 + 14\frac{1514}{3289}u^2v + 571\frac{42706}{43355}uv^2 + 35\frac{133}{145}v^3$$

$$399) \left(34x - \frac{21}{25}y\right) \left(\frac{36}{37}x^2 + 4\frac{8}{17}xy - 1\frac{5}{7}y^2\right)$$

$$33\frac{3}{37}x^3 + 151\frac{169}{925}x^2y - 62\frac{122}{2975}xy^2 + 1\frac{11}{25}y^3$$

$$400) \left(\frac{18}{31}x + \frac{7}{8}y\right) \left(17\frac{7}{17}x^2 + 13\frac{3}{17}xy + 1\frac{1}{2}y^2\right)$$

$$10\frac{58}{527}x^3 + 22\frac{467}{527}x^2y + 12\frac{211}{527}xy^2 + 1\frac{5}{16}y^3$$

$$401) \left(49\frac{19}{28}x + 49\frac{3}{28}y\right) \left(22\frac{3}{50}x^2 - \frac{4}{11}xy + 36\frac{18}{35}y^2\right)$$

$$1095\frac{1273}{1400}x^3 + 1065\frac{21}{88}x^2y + 1796\frac{59}{490}xy^2 + 1793\frac{11}{98}y^3$$

$$402) \left(35\frac{17}{21}u + 46\frac{40}{49}v\right) \left(-v^2 + \frac{40}{41}u^2 - 1\frac{7}{34}uv\right)$$

$$-92\frac{661}{2499}uv^2 + 34\frac{806}{861}u^3 + 2\frac{50450}{102459}u^2v - 46\frac{40}{49}v^3$$

$$403) \left(25\frac{5}{42}x - 8\frac{53}{100}y\right) \left(-2xy + 57\frac{3}{8}x^2 + 41\frac{37}{51}y^2\right)$$

$$-539\frac{10867}{16800}x^2y + 1441\frac{23}{112}x^3 + 1065\frac{1259}{7650}xy^2 - 355\frac{1171}{1275}y^3$$

$$404) \left(1\frac{2}{3}a + 1\frac{2}{9}b\right) \left(\frac{11}{15}a^2 - \frac{11}{30}ab - 1\frac{6}{13}b^2\right)$$

$$1\frac{2}{9}a^3 + \frac{77}{270}a^2b - 2\frac{3103}{3510}ab^2 - 1\frac{92}{117}b^3$$

$$405) \left(6\frac{3}{56}x - 1\frac{13}{27}y\right) \left(8\frac{13}{21}x^2 + 4\frac{19}{90}xy + 47\frac{15}{86}y^2\right)$$

$$52\frac{69}{392}x^3 + 12\frac{4687}{6480}x^2y - 35\frac{9713933}{40960080}xy^2 + 34\frac{2481586}{2560005}y^3$$

$$406) \left(2b + \frac{5}{49}a\right) \left(23\frac{3}{4}a^2 + 1\frac{5}{16}ab - 65\frac{5}{8}b^2\right)$$

$$47\frac{71}{112}ba^2 - 4\frac{1}{14}b^2a - 131\frac{1}{4}b^3 + 2\frac{83}{196}a^3$$

$$407) \left(1\frac{7}{32}a + 20\frac{47}{98}b\right) \left(\frac{29}{35}a^2 + 7\frac{14}{43}ab + 25\frac{7}{58}b^2\right)$$

$$1\frac{11}{1120}a^3 - 5\frac{33046117}{68435360}a^2b - 7\frac{87278201}{136870720}ab^2 + 12\frac{3299159}{8554420}b^3$$

$$408) \left(64x + 29\frac{29}{45}y\right) \left(42\frac{3}{8}x^2 - 1\frac{3}{16}xy - \frac{1}{3}y^2\right)$$

$$2712x^3 + 1180\frac{11}{60}x^2y - 56\frac{193}{360}xy^2 - 9\frac{119}{135}y^3$$

$$409) \left(45m + 48\frac{67}{88}n\right) \left(11\frac{2}{63}m^2 + 32\frac{37}{54}mn + \frac{28}{65}n^2\right)$$

$$496\frac{3}{7}m^3 + 22\frac{358867}{1081080}m^2n - 373\frac{574151}{2162160}mn^2 + 21\frac{7}{1430}n^3$$

$$410) \left(\frac{4}{17}x - 1\frac{27}{28}y\right) \left(1\frac{1}{26}x^2 + 1\frac{9}{56}xy + 1\frac{5}{27}y^2\right)$$

$$\frac{54}{221}x^3 - 1\frac{9489}{12376}x^2y - 2\frac{797}{719712}xy^2 - 2\frac{62}{189}y^3$$

$$411) \left(\frac{1}{14}x + 37\frac{1}{14}y\right) \left(1\frac{3}{5}x^2 - 1\frac{1}{4}xy - \frac{29}{68}y^2\right)$$

$$\frac{4}{35}x^3 + 59\frac{9}{40}x^2y - 46\frac{44}{119}xy^2 - 15\frac{771}{952}y^3$$

$$412) \left(38\frac{25}{92}m + 46\frac{2}{3}n\right) \left(19\frac{39}{70}m^2 + 1\frac{1}{5}mn + \frac{85}{93}n^2\right)$$

$$748\frac{447}{920}m^3 + 958\frac{409}{690}m^2n + 90\frac{8381}{8556}mn^2 + 42\frac{182}{279}n^3$$

$$413) \left(31\frac{9}{14}u + \frac{1}{4}v\right) \left(10\frac{6}{11}u^2 + 1\frac{39}{44}uv - 1\frac{39}{59}v^2\right)$$

$$333\frac{53}{77}u^3 + 62\frac{201}{616}u^2v - 52\frac{911}{10384}uv^2 - \frac{49}{118}v^3$$

$$414) \left(\frac{17}{21}x + \frac{38}{43}y\right) \left(96\frac{17}{48}x^2 + \frac{31}{38}xy - 1\frac{19}{81}y^2\right)$$

$$78\frac{1}{1008}x^3 + 85\frac{111259}{137256}x^2y - \frac{20369}{73143}xy^2 - 1\frac{317}{3483}y^3$$

$$415) \left(41\frac{4}{7}x - 1\frac{37}{41}y\right) \left(30x^2 - 1\frac{28}{29}xy - 1\frac{1}{2}y^2\right)$$

$$1247\frac{1}{7}x^3 - 138\frac{6513}{8323}x^2y - 58\frac{10285}{16646}xy^2 + 2\frac{35}{41}y^3$$

$$416) \left(45\frac{1}{28}u + 1\frac{46}{51}v\right) \left(1\frac{53}{60}u^2 + 15\frac{20}{51}uv + 1\frac{4}{29}v^2\right)$$

$$-16\frac{36421957}{42240240}u^3 - 14\frac{5162971}{5280030}u^2v - 21\frac{1654799}{10560060}uv^2 + 2\frac{81}{493}v^3$$

$$417) \left(\frac{16}{35}x - 1\frac{19}{29}y\right) \left(1\frac{11}{74}x^2 - 1\frac{10}{31}xy + 37\frac{27}{56}y^2\right)$$

$$\frac{136}{259}x^3 - 2\frac{588878}{1164205}x^2y + 19\frac{71317}{220255}xy^2 - 62\frac{8}{203}y^3$$

$$418) \left(48\frac{13}{42}a + 44\frac{23}{30}b\right) \left(22\frac{4}{57}a^2 + 1\frac{13}{43}ab + 15\frac{51}{70}b^2\right) \\ -6\frac{5918341}{9007425}a^3 - 21\frac{8411146}{9007425}a^2b - 16\frac{10936537}{36029700}ab^2 - 11\frac{58655}{480396}b^3$$

$$419) \left(\frac{5}{7}a + 1\frac{27}{29}b\right) \left(43\frac{66}{71}a^2 + 3\frac{57}{97}ab + \frac{49}{71}b^2\right) \\ 31\frac{188}{497}a^3 + 87\frac{548209}{1398061}a^2b + 7\frac{2898}{6887}ab^2 + 1\frac{685}{2059}b^3$$

$$420) \left(43\frac{6}{59}x - 1\frac{17}{24}y\right) \left(-46y^2 + 1\frac{46}{47}x^2 + 5\frac{4}{19}xy\right) \\ 1405\frac{33553}{1264488}xy^2 + 85\frac{794}{2773}x^3 + 221\frac{85225}{421496}x^2y + 78\frac{7}{12}y^3$$

$$421) \left(26\frac{20}{63}x + 12\frac{47}{98}y\right) \left(30y^2 + \frac{2}{5}x^2 + 23\frac{53}{78}xy\right) \quad 422) \left(29\frac{68}{77}x - \frac{55}{78}y\right) \left(\frac{25}{29}x^2 + 1\frac{5}{17}xy - \frac{38}{83}y^2\right) \\ 1085\frac{87}{2548}xy^2 + 10\frac{166}{315}x^3 + 628\frac{15118}{85995}x^2y + 374\frac{19}{49}y^3 + 3\frac{35021521}{122879757}x^3 + 3\frac{2113481}{18904578}x^2y + 2\frac{108423613}{122879757}xy^2 + \frac{10}{32}$$

$$423) \left(\frac{63}{71}m + 1\frac{7}{22}n\right) \left(\frac{15}{91}m^2 + 2\frac{25}{66}mn - 1\frac{13}{43}n^2\right) \\ \frac{135}{923}m^3 + 2\frac{23314}{71071}m^2n + 1\frac{4344697}{4432956}mn^2 - 1\frac{339}{473}n^3$$

$$424) \left(1\frac{23}{42}m + 44\frac{9}{31}n\right) \left(8\frac{67}{72}m^2 + 15\frac{1}{21}mn + 37\frac{3}{4}n^2\right) \\ 13\frac{2483}{3024}m^3 + 418\frac{90247}{109368}m^2n + 724\frac{1539}{1736}mn^2 + 1671\frac{119}{124}n^3$$

$$425) \left(32\frac{17}{91}x + 32\frac{21}{58}y\right) \left(-45y^2 + 39\frac{26}{99}x^2 - 1\frac{35}{39}xy\right) \\ -245\frac{829781}{3396393}xy^2 - \frac{312625}{377377}x^3 - 55\frac{134689}{6792786}x^2y - 191\frac{4930687}{6792786}y^3$$

$$426) \left(34\frac{73}{99}m - 1\frac{5}{16}n\right) \left(\frac{10}{99}m^2 - \frac{31}{69}mn + \frac{13}{32}n^2\right) \\ 3\frac{4987}{9801}m^3 - 15\frac{40397}{54648}m^2n + 14\frac{51131}{72864}mn^2 - \frac{273}{512}n^3$$

$$427) \left(1\frac{2}{3}x + 32\frac{43}{59}y\right) \left(30\frac{4}{15}x^2 + \frac{8}{27}xy + 37\frac{3}{20}y^2\right) \\ 50\frac{4}{9}x^3 + 991\frac{2053}{23895}x^2y + 71\frac{3913}{6372}xy^2 + 1215\frac{1033}{1180}y^3$$

$$428) \left(37\frac{4}{13}x + 29\frac{2}{27}y\right) \left(\frac{2}{5}x^2 + \frac{79}{88}xy - \frac{53}{57}y^2\right) \\ 14\frac{12}{13}x^3 + 45\frac{3761}{30888}x^2y - 8\frac{345679}{586872}xy^2 - 27\frac{52}{1539}y^3$$

$$429) \left(12\frac{19}{21}u - 1\frac{5}{17}v\right)\left(96\frac{19}{42}u^2 - \frac{3}{7}uv + 3\frac{18}{29}v^2\right)$$

$$1244\frac{613}{882}u^3 - 130\frac{878}{2499}u^2v + 47\frac{962}{3451}uv^2 - 4\frac{338}{493}v^3$$

$$430) \left(1\frac{13}{17}u + 34\frac{17}{32}v\right)\left(47\frac{57}{70}u^2 + 1\frac{59}{86}uv + 10\frac{58}{63}v^2\right)$$

$$84\frac{45}{119}u^3 + 196\frac{2514245}{2947392}u^2v + 77\frac{484357}{982464}uv^2 + 377\frac{13}{126}v^3$$

$$431) \left(\frac{5}{14}x + 20\frac{21}{88}y\right)\left(\frac{5}{8}x^2 + 1\frac{17}{18}xy + 43\frac{17}{48}y^2\right)$$

$$\frac{25}{112}x^3 + 13\frac{2177}{6336}x^2y + 54\frac{18551}{22176}xy^2 + 877\frac{1813}{4224}y^3$$

$$432) \left(\frac{11}{14}x + 23\frac{24}{61}y\right)\left(21\frac{11}{12}x^2 + 48\frac{11}{71}xy - 1\frac{5}{18}y^2\right)$$

$$17\frac{37}{168}x^3 + 550\frac{197291}{363804}x^2y - 842\frac{17773}{155916}xy^2 - 29\frac{979}{1098}y^3$$

$$433) \left(18\frac{33}{49}a - 1\frac{4}{37}b\right)\left(ab + 48\frac{95}{98}a^2 + 15\frac{38}{85}b^2\right)$$

$$-35\frac{2139}{3626}a^2b + 61\frac{545821}{2157470}a^3 + 2\frac{7175712}{7551145}ab^2 - 17\frac{368}{3145}b^3$$

$$434) \left(6y + 1\frac{3}{14}x\right)\left(24\frac{13}{17}x^2 + 18\frac{32}{63}xy + 20\frac{2}{15}y^2\right)$$

$$171\frac{466}{7497}yx^2 + 135\frac{52}{105}y^2x + 120\frac{4}{5}y^3 + 30\frac{1}{14}x^3$$

$$435) \left(-b + 1\frac{61}{63}a\right)\left(8\frac{27}{38}a^2 - \frac{55}{94}ab - 3\frac{7}{17}b^2\right)$$

$$-9\frac{97009}{112518}ba^2 - 6\frac{13099}{100674}b^2a + 3\frac{7}{17}b^3 + 17\frac{173}{1197}a^3$$

$$436) \left(33\frac{11}{70}x + 1\frac{6}{41}y\right)\left(x^2 + 10\frac{61}{92}xy - 94\frac{16}{21}y^2\right)$$

$$33\frac{11}{70}x^3 + 354\frac{185461}{264040}x^2y - 31\frac{1269683}{2772420}xy^2 - 108\frac{542}{861}y^3$$

$$437) \left(1\frac{61}{77}m + 31\frac{29}{90}n\right)\left(30\frac{13}{98}m^2 + 38\frac{23}{44}mn + 1\frac{28}{53}n^2\right)$$

$$-\frac{4628845}{19796931}m^3 - 1\frac{152167669}{395938620}m^2n - \frac{115852243}{791877240}mn^2 - \frac{20769211}{21996590}n^3$$

$$438) \left(1\frac{18}{91}m + 1\frac{47}{76}n\right)\left(46\frac{11}{16}m^2 - \frac{4}{5}mn - 1\frac{1}{29}n^2\right)$$

$$55\frac{1343}{1456}m^3 + 74\frac{332959}{553280}m^2n - 2\frac{133837}{250705}mn^2 - 1\frac{743}{1102}n^3$$

$$\begin{aligned}
439) & \left(26\frac{11}{84}x - \frac{4}{7}y\right)\left(60xy + 46\frac{14}{15}x^2 + 46\frac{9}{14}y^2\right) \\
& 1541\frac{4}{105}x^2y + 1226\frac{26}{63}x^3 + 1184\frac{631}{1176}xy^2 - 26\frac{32}{49}y^3 \\
440) & \left(11\frac{27}{98}x + 30\frac{1}{22}y\right)\left(\frac{1}{15}x^2 + 13\frac{11}{84}xy + 10\frac{47}{85}y^2\right) \\
& \frac{221}{294}x^3 + 150\frac{9239}{150920}x^2y - 44\frac{3817181}{7696920}xy^2 - 240\frac{1815031}{1924230}y^3 \\
441) & \left(1\frac{2}{3}m + 50\frac{7}{62}n\right)\left(45\frac{12}{83}m^2 + 44\frac{17}{63}mn + \frac{14}{29}n^2\right) \\
& 75\frac{20}{83}m^3 + 51\frac{27505013}{28205226}m^2n - 64\frac{7887211}{9401742}mn^2 + 24\frac{173}{899}n^3 \\
442) & \left(\frac{1}{13}x - \frac{1}{2}y\right)\left(16y^2 + 1\frac{21}{50}x^2 + \frac{53}{96}xy\right) \\
& \frac{2383}{2496}xy^2 + \frac{71}{650}x^3 - \frac{20827}{31200}x^2y - 8y^3 \\
443) & \left(2\frac{13}{20}x - \frac{48}{73}y\right)\left(35\frac{49}{100}x^2 - 1\frac{32}{39}xy - \frac{9}{14}y^2\right) \\
& -13\frac{28228183}{39858000}x^3 - 28\frac{45623}{284700}x^2y - \frac{134593}{265720}xy^2 + \frac{216}{511}y^3 \\
444) & \left(9\frac{4}{35}x + 48\frac{2}{51}y\right)\left(89x^2 + 1\frac{1}{6}xy + 1\frac{36}{43}y^2\right) \\
& 811\frac{6}{35}x^3 + 4286\frac{21}{170}x^2y + 72\frac{182048}{230265}xy^2 + 88\frac{566}{2193}y^3 \\
445) & \left(1\frac{18}{41}u + 1\frac{11}{78}v\right)\left(17\frac{25}{28}u^2 + 14\frac{3}{8}uv + 32\frac{94}{99}v^2\right) \\
& 25\frac{859}{1148}u^3 + 41\frac{1525}{14924}u^2v + 63\frac{690083}{844272}uv^2 + 37\frac{2302}{3861}v^3 \\
446) & \left(\frac{16}{27}u + 16\frac{15}{91}v\right)\left(1\frac{7}{17}u^2 + \frac{15}{37}uv + \frac{10}{19}v^2\right) \\
& \frac{128}{153}u^3 + 23\frac{31519}{515151}u^2v + 6\frac{1494439}{1727271}uv^2 + 8\frac{878}{1729}v^3 \\
447) & \left(23\frac{29}{48}x + 10\frac{37}{76}y\right)\left(30x^2 + 1\frac{7}{17}xy + 1\frac{4}{15}y^2\right) \\
& 708\frac{1}{8}x^3 + 347\frac{300}{323}x^2y + 44\frac{163621}{232560}xy^2 + 13\frac{17}{60}y^3 \\
448) & \left(2\frac{31}{56}a - 1\frac{26}{27}b\right)\left(33\frac{58}{85}a^2 - 1\frac{17}{29}ab - \frac{25}{34}b^2\right) \\
& 86\frac{7}{680}a^3 - 70\frac{312523}{1863540}a^2b + 1\frac{351895}{1490832}ab^2 + 1\frac{407}{918}b^3
\end{aligned}$$

$$\begin{aligned}
449) & \left(y + 1\frac{10}{21}x\right)\left(1\frac{24}{61}x^2 + 35\frac{52}{93}xy - 1\frac{19}{28}y^2\right) & 450) & \left(16\frac{41}{69}a + 21\frac{89}{98}b\right)\left(\frac{13}{17}a^2 + 8\frac{7}{20}ab - \frac{6}{7}b^2\right) \\
& 53\frac{3403}{3843}yx^2 + 33\frac{1481}{18228}y^2x - 1\frac{19}{28}y^3 + 2\frac{73}{1281}x^3 & & 12\frac{809}{1173}a^3 - 111\frac{1502091}{2682260}a^2b - 98\frac{2660977}{16093560}ab^2 - 18\frac{26}{34}b^3 \\
451) & \left(74y + 1\frac{29}{77}x\right)\left(35\frac{71}{78}x^2 + 1\frac{55}{67}xy + 39\frac{9}{92}y^2\right) \\
& -124\frac{2221123}{4627623}yx^2 + 188\frac{12281}{21574}y^2x + 108\frac{2756515}{3085082}y^3 + 49\frac{1306}{3003}x^3 \\
452) & \left(\frac{11}{30}x - \frac{71}{79}y\right)\left(46\frac{37}{39}x^2 - \frac{20}{27}xy - \frac{7}{11}y^2\right) \\
& 17\frac{251}{1170}x^3 - 42\frac{38767}{83187}x^2y + \frac{9223}{21330}xy^2 + \frac{497}{869}y^3 \\
453) & \left(49\frac{73}{84}m + 1\frac{23}{29}n\right)\left(1\frac{43}{54}m^2 + 18\frac{13}{32}mn + 16\frac{2}{11}n^2\right) \\
& 89\frac{2629}{4536}m^3 - 6\frac{10319747}{23151744}m^2n - 87\frac{122513}{206712}mn^2 + 29\frac{5}{319}n^3 \\
454) & \left(1\frac{81}{98}m + 35\frac{20}{23}n\right)\left(40\frac{7}{90}m^2 + 7\frac{47}{85}mn + 27\frac{38}{59}n^2\right) \\
& 9\frac{178449949}{203468580}m^3 - 5\frac{4597601}{33911430}m^2n + 4\frac{5305165}{6782286}mn^2 - \frac{26986853}{50867145}n^3 \\
455) & \left(39\frac{5}{6}x + 1\frac{17}{27}y\right)\left(\frac{1}{5}x^2 - \frac{29}{79}xy - \frac{28}{55}y^2\right) & 456) & \left(1\frac{9}{19}x + 46\frac{1}{27}y\right)\left(-68y^2 + 9\frac{9}{16}x^2 - \frac{1}{2}xy\right) \\
& 7\frac{29}{30}x^3 - 14\frac{6323}{21330}x^2y - 20\frac{102886}{117315}xy^2 - \frac{112}{135}y^3 & & -123\frac{235}{1026}xy^2 + 14\frac{7}{76}x^3 + 439\frac{449}{912}x^2y - 3130\frac{14}{27}y^3 \\
457) & \left(1\frac{8}{13}m + 26\frac{5}{9}n\right)\left(42\frac{70}{89}m^2 + \frac{13}{15}mn - 1\frac{9}{17}n^2\right) \\
& 69\frac{135}{1157}m^3 - 479\frac{5242}{5967}m^2n + 20\frac{1249}{2295}mn^2 - 40\frac{94}{153}n^3 \\
458) & \left(14\frac{15}{34}u + 26\frac{24}{61}v\right)\left(\frac{10}{21}u^2 + 1\frac{9}{13}uv + 55\frac{2}{95}v^2\right) \\
& 6\frac{313}{357}u^3 + 37\frac{292}{40443}u^2v - 39\frac{1022965}{10757838}uv^2 + 14\frac{8322092}{8964865}v^3 \\
459) & \left(\frac{20}{27}x + \frac{91}{95}y\right)\left(46x^2 + 19\frac{27}{56}xy + 35\frac{15}{56}y^2\right) \\
& 34\frac{2}{27}x^3 + 58\frac{17753}{35910}x^2y + 44\frac{112927}{143640}xy^2 + 33\frac{119}{152}y^3 \\
460) & \left(5\frac{39}{41}x - 1\frac{4}{5}y\right)\left(1\frac{3}{37}x^2 + 13\frac{25}{74}xy + 86\frac{1}{8}y^2\right) \\
& 6\frac{658}{1517}x^3 + 77\frac{653}{1517}x^2y + 488\frac{4101}{7585}xy^2 - 155\frac{1}{40}y^3
\end{aligned}$$

$$\begin{aligned}
461) & \left(1\frac{25}{48}u + 6\frac{11}{24}v\right)\left(\frac{2}{29}u^2 - \frac{29}{34}uv + 21\frac{19}{84}v^2\right) & 462) & \left(8\frac{59}{62}a - \frac{9}{16}b\right)\left(\frac{8}{17}a^2 + 1\frac{34}{93}ab + 43\frac{2}{55}b^2\right) \\
& \frac{73}{696}u^3 - \frac{40313}{47328}u^2v + 26\frac{52979}{68544}uv^2 + 137\frac{173}{2016}v^3 & & 4\frac{112}{527}a^3 + 11\frac{15676}{16337}a^2b + 85\frac{10477779}{14376560}ab^2 - 24\frac{183}{880}b^3 \\
463) & \left(33\frac{32}{55}x - 1\frac{21}{37}y\right)\left(\frac{2}{3}x^2 - 6\frac{29}{98}xy + 1\frac{36}{55}y^2\right) \\
& 22\frac{64}{165}x^3 + 48\frac{18808897}{32905950}x^2y - 65\frac{298099}{3290595}xy^2 - 2\frac{1208}{2035}y^3 \\
464) & \left(36\frac{61}{70}x + 23\frac{41}{53}y\right)\left(7\frac{23}{99}x^2 - \frac{28}{29}xy + 33\frac{2}{5}y^2\right) \\
& 24\frac{19389086}{26628525}x^3 - 24\frac{25396186}{26628525}x^2y - 1\frac{2447663}{17752350}xy^2 - 12\frac{2248096}{5325705}y^3 \\
465) & \left(a - 1\frac{43}{48}b\right)\left(34ab + 1\frac{30}{73}a^2 + 12\frac{20}{73}b^2\right) \\
& 31\frac{1139}{3504}a^2b + 1\frac{30}{73}a^3 - 52\frac{323}{1752}ab^2 - 23\frac{59}{219}b^3 \\
466) & \left(1\frac{13}{83}x + 32\frac{17}{39}y\right)\left(1\frac{39}{58}x^2 - \frac{41}{46}xy + 29\frac{1}{8}y^2\right) \\
& 1\frac{2249}{2407}x^3 + 53\frac{929855}{4318158}x^2y + 4\frac{5027}{6474}xy^2 - 49\frac{16132271}{17272632}y^3 \\
467) & \left(40\frac{37}{91}m - 37\frac{20}{23}n\right)\left(9\frac{36}{41}m^2 + 1\frac{1}{46}mn - \frac{20}{39}n^2\right) \\
& 8\frac{42810575}{76974261}m^3 + 1\frac{50919541}{51316174}m^2n - 3\frac{94939895}{153948522}mn^2 - 8\frac{12275700}{25658087}n^3 \\
468) & \left(\frac{81}{97}x - 1\frac{7}{13}y\right)\left(\frac{2}{7}x^2 - \frac{20}{27}xy + \frac{1}{10}y^2\right) \\
& \frac{162}{679}x^3 - 1\frac{513}{8827}x^2y + 1\frac{75961}{340470}xy^2 - \frac{2}{13}y^3 \\
469) & \left(32m + 20\frac{2}{27}n\right)\left(1\frac{37}{100}m^2 + 49\frac{34}{81}mn - 1\frac{9}{70}n^2\right) \\
& 43\frac{21}{25}m^3 + 1608\frac{3781}{4050}m^2n + 955\frac{72067}{76545}mn^2 - 22\frac{619}{945}n^3 \\
470) & \left(44\frac{1}{13}x + \frac{83}{91}y\right)\left(43\frac{4}{15}x^2 + 1\frac{31}{35}xy + 1\frac{34}{55}y^2\right) \\
& 1907\frac{4}{65}x^3 + 122\frac{113}{195}x^2y + 73\frac{1556}{35035}xy^2 + 1\frac{2382}{5005}y^3 \\
471) & \left(1\frac{7}{20}m + 48\frac{1}{55}n\right)\left(52m^2 - \frac{9}{31}mn + \frac{5}{8}n^2\right) & 472) & \left(21\frac{7}{26}x - \frac{8}{71}y\right)\left(36\frac{11}{42}x^2 - \frac{7}{47}xy + \frac{16}{19}y^2\right) \\
& 70\frac{1}{5}m^3 + 2496\frac{755}{1364}m^2n - 13\frac{5293}{54560}mn^2 + 30\frac{1}{88}n^3 & & 26\frac{59465729}{69236076}x^3 - 7\frac{462071}{1822002}x^2y + 17\frac{764657}{824239}xy^2 - \frac{128}{1349}n^3
\end{aligned}$$

$$473) \left(\frac{6}{17}x - 3\frac{3}{40}y \right) \left(24\frac{7}{11}x^2 - 2\frac{71}{78}xy + 1\frac{3}{25}y^2 \right)$$

$$8\frac{130}{187}x^3 - 76\frac{76233}{97240}x^2y + 9\frac{30439}{88400}xy^2 - 3\frac{111}{250}y^3$$

$$474) \left(24\frac{3}{41}u + 38\frac{7}{51}v \right) \left(13\frac{3}{31}u^2 + 76\frac{1}{27}uv + 31\frac{16}{47}v^2 \right)$$

$$2\frac{2548}{27419283}u^3 - 19\frac{2066566}{3046587}u^2v - \frac{17418146}{27419283}uv^2 - 5\frac{55268318}{82257849}v^3$$

$$475) \left(43\frac{17}{48}x + 16\frac{71}{91}y \right) \left(\frac{11}{21}x^2 - \frac{51}{94}xy - 1\frac{48}{73}y^2 \right)$$

$$2\frac{75162431}{314718768}x^3 - 1\frac{84289}{988128}x^2y + \frac{96180925}{104906256}xy^2 - \frac{786475}{1513071}y^3$$

$$476) \left(29\frac{21}{62}x + 34\frac{11}{19}y \right) \left(1\frac{1}{13}x^2 + \frac{5}{19}xy + \frac{1}{6}y^2 \right)$$

$$31\frac{240}{403}x^3 + 44\frac{14695}{15314}x^2y + 13\frac{132883}{134292}xy^2 + 5\frac{29}{38}y^3$$

$$477) \left(1\frac{13}{27}u + 17\frac{61}{70}v \right) \left(28\frac{26}{61}u^2 - 1\frac{5}{18}uv + 29\frac{35}{94}v^2 \right)$$

$$-1\frac{22483189}{24383835}u^3 + 21\frac{6010486}{8127945}u^2v + 20\frac{120607}{177660}uv^2 - 3\frac{341819}{691740}v^3$$

$$478) \left(41b + \frac{7}{69}a \right) \left(\frac{39}{44}a^2 - 1\frac{95}{96}ab + 29\frac{91}{92}b^2 \right)$$

$$36\frac{10133}{72864}ba^2 - 78\frac{8981}{16928}b^2a + 1229\frac{51}{92}b^3 + \frac{91}{1012}a^3$$

$$479) \left(32\frac{23}{76}x - \frac{11}{14}y \right) \left(-36xy + 44\frac{3}{41}x^2 + \frac{6}{31}y^2 \right)$$

$$-1197\frac{5711}{10906}x^2y + 1423\frac{2117}{3116}x^3 + 34\frac{4435}{8246}xy^2 - \frac{33}{217}y^3$$

$$480) \left(\frac{49}{90}x + \frac{11}{17}y \right) \left(27\frac{37}{84}x^2 + 28\frac{21}{29}xy - 1\frac{5}{6}y^2 \right)$$

$$14\frac{203}{216}x^3 + 33\frac{244931}{621180}x^2y + 17\frac{9209}{15660}xy^2 - 1\frac{19}{102}y^3$$

$$481) \left(60a + \frac{9}{11}b \right) \left(-16b^2 + 10\frac{7}{45}a^2 + 34\frac{8}{65}ab \right)$$

$$-932\frac{58}{715}ab^2 + 609\frac{1}{3}a^3 + 2055\frac{496}{715}a^2b - 13\frac{1}{11}b^3$$

$$482) \left(10\frac{7}{97}m + 14\frac{45}{67}n \right) \left(\frac{8}{47}m^2 + \frac{1}{91}mn + \frac{27}{41}n^2 \right)$$

$$1\frac{3257}{4559}m^3 - 1\frac{26163716}{162806449}m^2n - \frac{121007622}{162806449}mn^2 - 1\frac{734218616}{1139645143}n^3$$

$$483) \left(x + 1\frac{32}{71}y \right) \left(36\frac{43}{96}x^2 - \frac{25}{89}xy + 1\frac{47}{78}y^2 \right)$$

$$36\frac{43}{96}x^3 + 52\frac{360485}{606624}x^2y + 1\frac{96143}{492882}xy^2 + 2\frac{1799}{5538}y^3$$

$$484) \left(63\frac{7}{12}m - 1\frac{9}{14}n \right) \left(\frac{1}{7}m^2 + 46\frac{23}{29}mn - 1\frac{19}{24}n^2 \right)$$

$$9\frac{1}{12}m^3 + 2975\frac{457}{17052}m^2n - 190\frac{46451}{58464}mn^2 + 2\frac{317}{336}n^3$$

$$485) \left(1\frac{12}{19}x + \frac{22}{57}y\right)\left(19\frac{26}{63}x^2 + 38\frac{39}{80}xy + 48\frac{19}{84}y^2\right)$$

$$31\frac{806}{1197}x^3 + 70\frac{82741}{287280}x^2y + 93\frac{2871}{5320}xy^2 + 18\frac{1469}{2394}y^3$$

$$486) \left(2y + 16\frac{4}{27}x\right)\left(36\frac{17}{38}x^2 - 1\frac{6}{11}xy + \frac{1}{2}y^2\right)$$

$$47\frac{5296}{5643}yx^2 + 4\frac{292}{297}y^2x + y^3 + 588\frac{286}{513}x^3$$

$$487) \left(17\frac{28}{33}x + 20\frac{15}{16}y\right)\left(8\frac{37}{97}x^2 + 25\frac{46}{97}xy + 2\frac{67}{72}y^2\right)$$

$$149\frac{636}{1067}x^3 - 534\frac{257045}{460944}x^2y - 579\frac{7355}{153648}xy^2 + 61\frac{413}{1152}y^3$$

$$488) \left(20\frac{25}{48}u + 1\frac{17}{95}v\right)\left(\frac{29}{80}u^2 + 36\frac{7}{20}uv + \frac{4}{21}v^2\right)$$

$$489) \left(1\frac{3}{8}x + \frac{18}{43}y\right)\left(-39xy + 1\frac{1}{24}x^2 + 43\frac{1}{6}y^2\right)$$

$$7\frac{337}{768}u^3 + 185\frac{1374197}{1915200}u^2v + 46\frac{91387}{119700}uv^2 + \frac{64}{285}v^3 - 53\frac{65}{344}x^2y + 1\frac{83}{192}x^3 + 43\frac{59}{2064}xy^2 + 18\frac{3}{43}y^3$$

$$490) \left(62x - 1\frac{11}{50}y\right)\left(1\frac{21}{22}x^2 - \frac{3}{8}xy - 17\frac{22}{35}y^2\right)$$

$$491) \left(87u + \frac{65}{94}v\right)\left(2u^2 + 2\frac{2}{17}uv + 49\frac{2}{39}v^2\right)$$

$$121\frac{2}{11}x^3 - 25\frac{349}{550}x^2y - 1092\frac{1439}{2800}xy^2 + 21\frac{887}{1750}y^3 \quad 174u^3 + 185\frac{494}{799}u^2v + 4268\frac{9617}{10387}uv^2 + 33\frac{259}{282}v^3$$

$$492) \left(1\frac{61}{68}x + 20\frac{15}{59}y\right)\left(5x^2 - \frac{33}{46}xy + 41\frac{29}{70}y^2\right)$$

$$9\frac{33}{68}x^3 + 99\frac{167989}{184552}x^2y + 64\frac{226867}{6459320}xy^2 + 173\frac{1435841}{1614830}y^3$$

$$493) \left(\frac{13}{19}a + 34\frac{2}{3}b\right)\left(28\frac{23}{36}a^2 - 1\frac{63}{85}ab + 39\frac{21}{26}b^2\right)$$

$$19\frac{407}{684}a^3 + 991\frac{27187}{43605}a^2b - 33\frac{1201}{9690}ab^2 + 1380b^3$$

$$494) \left(\frac{27}{89}a + \frac{5}{87}b\right)\left(2a^2 - 1\frac{8}{13}ab + 20\frac{6}{11}b^2\right)$$

$$\frac{54}{89}a^3 - \frac{37759}{100659}a^2b + 6\frac{51691}{369083}ab^2 + 1\frac{173}{957}b^3$$

$$495) \left(1\frac{30}{83}x + 27\frac{34}{43}y\right)\left(44\frac{10}{13}x^2 - \frac{19}{33}xy + \frac{1}{26}y^2\right)$$

$$60\frac{1026}{1079}x^3 - 159\frac{291652}{1531101}x^2y - 15\frac{2904013}{3062202}xy^2 + 1\frac{77}{1118}y^3$$

$$496) \left(4\frac{60}{97}x - \frac{21}{22}y\right)\left(\frac{1}{3}x^2 + 17\frac{2}{3}xy + 1\frac{1}{2}y^2\right)$$

$$1\frac{157}{291}x^3 + 81\frac{1769}{6402}x^2y - 9\frac{1997}{2134}xy^2 - 1\frac{19}{44}y^3$$

$$\begin{aligned}
497) & \left(-91n + \frac{2}{5}m\right)\left(5\frac{5}{6}m^2 + 39\frac{33}{94}mn + 24\frac{49}{68}n^2\right) \\
& -515\frac{131}{1410}nm^2 - 3571\frac{234}{3995}n^2m - 2249\frac{39}{68}n^3 + 2\frac{1}{3}m^3 \\
498) & \left(37\frac{1}{12}x + 2\frac{29}{56}y\right)\left(34\frac{59}{84}x^2 + 17\frac{23}{62}xy + \frac{7}{9}y^2\right) \\
& 1286\frac{887}{1008}x^3 + 731\frac{26687}{48608}x^2y + 72\frac{54391}{93744}xy^2 + 1\frac{23}{24}y^3 \\
499) & \left(9\frac{11}{19}m + 1\frac{83}{91}n\right)\left(52m^2 - \frac{13}{74}mn + 16\frac{79}{88}n^2\right) \\
& 498\frac{2}{19}m^3 + 97\frac{3670}{4921}m^2n + 161\frac{114007}{216524}mn^2 + 32\frac{1241}{4004}n^3 \\
500) & \left(1\frac{12}{13}x + 25\frac{3}{4}y\right)\left(1\frac{6}{17}x^2 + 5\frac{19}{50}xy - 1\frac{13}{25}y^2\right) \\
& 2\frac{133}{221}x^3 + 45\frac{163}{884}x^2y + 135\frac{1591}{2600}xy^2 - 39\frac{7}{50}y^3 \\
501) & \left(89x + \frac{11}{17}y\right)\left(-49xy + 43\frac{5}{8}x^2 + 13\frac{71}{88}y^2\right) \\
& -4332\frac{105}{136}x^2y + 3882\frac{5}{8}x^3 + 1197\frac{151}{1496}xy^2 + 8\frac{127}{136}y^3 \\
502) & \left(\frac{11}{20}x + 24\frac{29}{62}y\right)\left(1\frac{13}{81}x^2 - \frac{7}{46}xy + 48\frac{81}{85}y^2\right) \\
& \frac{517}{810}x^3 + 6\frac{86018809}{196360200}x^2y + 1\frac{1609487}{4909005}xy^2 - 5\frac{2372483}{9818010}y^3 \\
503) & \left(2x + 13\frac{32}{33}y\right)\left(1\frac{32}{75}x^2 + 26\frac{23}{86}xy + 1\frac{5}{41}y^2\right) \\
& 2\frac{64}{75}x^3 + 72\frac{49486}{106425}x^2y - 122\frac{8407471}{8726850}xy^2 + 15\frac{911}{1353}y^3 \\
504) & \left(39\frac{37}{54}u - 1\frac{3}{8}v\right)\left(\frac{17}{25}u^2 + 2\frac{23}{78}uv + 49\frac{47}{74}v^2\right) \\
& 26\frac{1331}{1350}u^3 + 90\frac{28939}{210600}u^2v + 37\frac{7262453}{15584400}uv^2 - 68\frac{147}{592}v^3 \\
505) & \left(42\frac{17}{62}x + 50\frac{23}{30}y\right)\left(x^2 + xy + 18\frac{5}{6}y^2\right) \\
& 42\frac{17}{62}x^3 + 93\frac{19}{465}x^2y + 846\frac{577}{620}xy^2 + 956\frac{19}{180}y^3 \\
506) & \left(1\frac{23}{25}x - \frac{3}{5}y\right)\left(38\frac{29}{42}x^2 + 1\frac{23}{67}xy + 27\frac{7}{25}y^2\right) \\
& 74\frac{2}{7}x^3 - 20\frac{2979}{4690}x^2y + 51\frac{23937}{41875}xy^2 - 16\frac{46}{125}y^3
\end{aligned}$$

$$\begin{aligned}
507) & \left(44\frac{39}{68}u - \frac{2}{19}v\right)\left(26\frac{17}{18}u^2 - \frac{1}{2}uv - 1\frac{2}{25}v^2\right) & 508) & \left(64b + 47\frac{63}{82}a\right)\left(71a^2 + 22\frac{2}{5}ab + 22\frac{17}{95}b^2\right) \\
& 1201\frac{11}{1224}u^3 - 25\frac{2861}{23256}u^2v - 48\frac{2803}{32300}uv^2 + \frac{54}{475}v^3 & & 5614\frac{2}{205}ba^2 + 2493\frac{393}{7790}b^2a + 1419\frac{43}{95}b^3 + 3391\frac{45}{82}a^3 \\
509) & \left(13\frac{17}{90}x + 13\frac{23}{57}y\right)\left(85\frac{55}{96}x^2 + 1\frac{1}{2}xy + 27\frac{28}{43}y^2\right) \\
& -88\frac{672889}{2352960}x^3 - 50\frac{120877}{882360}x^2y - 223\frac{144587}{220590}xy^2 - 237\frac{91129}{110295}y^3 \\
510) & \left(-89y + \frac{3}{4}x\right)\left(\frac{2}{15}x^2 + 33\frac{27}{50}xy - 2\frac{1}{5}y^2\right) \\
& 13\frac{173}{600}yx^2 - 2986\frac{71}{100}y^2x + 195\frac{4}{5}y^3 + \frac{1}{10}x^3 \\
511) & \left(1\frac{1}{2}a + 11\frac{29}{34}b\right)\left(36\frac{5}{32}a^2 + 49\frac{46}{71}ab - 1\frac{13}{68}b^2\right) \\
& 54\frac{15}{64}a^3 + 503\frac{2297}{77248}a^2b + 586\frac{6631}{9656}ab^2 - 14\frac{275}{2312}b^3 \\
512) & \left(16m + 1\frac{13}{18}n\right)\left(19\frac{63}{64}m^2 + \frac{2}{5}mn + \frac{28}{31}n^2\right) \\
& 319\frac{3}{4}m^3 + 40\frac{4709}{5760}m^2n + 15\frac{196}{1395}mn^2 + 1\frac{5}{9}n^3 \\
513) & \left(\frac{16}{33}x + 14\frac{49}{50}y\right)\left(22\frac{11}{70}x^2 + 41\frac{31}{55}xy + 1\frac{29}{50}y^2\right) \\
& 10\frac{26}{35}x^3 - 324\frac{257611}{6352500}x^2y - 52\frac{379713}{529375}xy^2 + 23\frac{1671}{2500}y^3 \\
514) & \left(3\frac{5}{19}x + 1\frac{7}{46}y\right)\left(13\frac{3}{16}x^2 + 42\frac{13}{45}xy + 1\frac{55}{72}y^2\right) \\
& 43\frac{5}{152}x^3 + 153\frac{119321}{629280}x^2y + 54\frac{37757}{78660}xy^2 + 2\frac{107}{3312}y^3 \\
515) & \left(\frac{2}{5}m - \frac{6}{7}n\right)\left(\frac{44}{53}m^2 + 1\frac{21}{86}mn + 1\frac{8}{9}n^2\right) \\
& \frac{88}{265}m^3 - \frac{17063}{79765}m^2n - \frac{4211}{13545}mn^2 - 1\frac{13}{21}n^3 \\
516) & \left(4\frac{21}{40}x + 19\frac{23}{66}y\right)\left(\frac{22}{41}x^2 + 1\frac{57}{97}xy + 4\frac{19}{24}y^2\right) \\
& 2\frac{351}{820}x^3 - 16\frac{4120273}{7874460}x^2y - 15\frac{98053337}{125991360}xy^2 - 9\frac{17533237}{31497840}y^3 \\
517) & \left(1\frac{22}{23}x + 1\frac{4}{35}y\right)\left(\frac{15}{86}x^2 + \frac{28}{29}xy + 20\frac{51}{97}y^2\right) \\
& \frac{675}{1978}x^3 + 2\frac{33491}{401534}x^2y - 2\frac{17018139}{19474399}xy^2 + \frac{79567321}{97371995}y^3
\end{aligned}$$

$$518) \left(40\frac{31}{54}x + 35\frac{8}{31}y\right)\left(6\frac{1}{64}x^2 + 38\frac{27}{67}xy - 1\frac{20}{31}y^2\right)$$

$$-6\frac{62252657}{74173824}x^3 - 5\frac{5691245}{12362304}x^2y - 5\frac{3223669}{3476898}xy^2 - \frac{58597}{579483}y^3$$

$$519) \left(\frac{51}{61}u + 28\frac{1}{22}v\right)\left(1\frac{6}{11}u^2 + \frac{25}{96}uv - 1\frac{15}{89}v^2\right)$$

$$1\frac{196}{671}u^3 + 9\frac{32026939}{63063264}u^2v + 6\frac{3743989}{11466048}uv^2 + 1\frac{553045}{1970727}v^3$$

$$520) \left(12\frac{27}{68}x + 29\frac{29}{83}y\right)\left(5\frac{31}{82}x^2 + \frac{16}{63}xy + 1\frac{33}{40}y^2\right)$$

$$\frac{6229691}{16198280}x^3 + 6\frac{1945964}{6074355}x^2y + 7\frac{191006581}{194379360}xy^2 + 9\frac{4507807}{12148710}y^3$$

$$521) \left(39\frac{14}{75}u + 31\frac{1}{63}v\right)\left(1\frac{5}{16}u^2 + \frac{35}{74}uv + 14\frac{8}{15}v^2\right)$$

$$51\frac{173}{400}u^3 + 59\frac{359}{1480}u^2v - 29\frac{872708}{874125}uv^2 + 143\frac{588769}{874125}v^3$$

$$522) \left(1\frac{38}{41}x + 49\frac{37}{51}y\right)\left(19\frac{27}{44}x^2 + 5\frac{3}{5}xy + 29\frac{5}{22}y^2\right)$$

$$37\frac{1429}{1804}x^3 + 986\frac{10112}{115005}x^2y + 334\frac{179111}{230010}xy^2 + 1453\frac{191}{561}y^3$$

$$523) \left(42\frac{57}{89}a + \frac{3}{7}b\right)\left(\frac{38}{55}a^2 + 1\frac{19}{24}ab + \frac{9}{31}b^2\right)$$

$$29\frac{41}{89}a^3 + 76\frac{190123}{274120}a^2b + 13\frac{22765}{154504}ab^2 + \frac{27}{217}b^3$$

$$524) \left(\frac{96}{97}x - \frac{4}{37}y\right)\left(16xy + 13\frac{11}{97}x^2 + 1\frac{60}{67}y^2\right)$$

$$14\frac{1498}{3589}x^2y + 12\frac{9204}{9409}x^3 + \frac{35168}{240463}xy^2 - \frac{508}{2479}y^3$$

$$525) \left(19\frac{1}{4}a + 33\frac{5}{22}b\right)\left(8a^2 + 24\frac{1}{2}ab - 1\frac{5}{6}b^2\right)$$

$$154a^3 + 737\frac{39}{88}a^2b + 778\frac{205}{264}ab^2 - 60\frac{11}{12}b^3$$

$$526) \left(1\frac{4}{11}x + 9\frac{7}{24}y\right)\left(-2y^2 + 74xy + 1\frac{3}{13}x^2\right)$$

$$684\frac{113}{132}xy^2 + 112\frac{148}{429}x^2y + 1\frac{97}{143}x^3 - 18\frac{7}{12}y^3$$

$$527) \left(1\frac{17}{18}m + \frac{27}{67}n\right)\left(\frac{7}{8}m^2 - 1\frac{13}{33}mn + 44\frac{20}{27}n^2\right)$$

$$1\frac{101}{144}m^3 - 2\frac{56963}{159192}m^2n + 86\frac{77752}{179091}mn^2 + 18\frac{2}{67}n^3$$

$$528) \left(16\frac{17}{26}x - 1\frac{40}{73}y\right)\left(\frac{18}{23}x^2 - 1\frac{3}{38}xy - \frac{7}{43}y^2\right)$$

$$13\frac{10}{299}x^3 - 19\frac{298691}{1658852}x^2y - 1\frac{31742}{775333}xy^2 + \frac{791}{3139}y^3$$

$$529) \left(\frac{3}{4}m + 11\frac{15}{52}n\right)\left(17mn + 12\frac{88}{93}m^2 - \frac{17}{21}n^2\right)$$

$$158\frac{4319}{4836}m^2n + 9\frac{22}{31}m^3 + 191\frac{27}{91}mn^2 - 9\frac{151}{1092}n^3$$

$$530) \left(27\frac{1}{39}x + 10\frac{41}{70}y\right)\left(71x^2 - 1\frac{30}{37}xy + 1\frac{37}{38}y^2\right)$$

$$-319\frac{82273}{959595}x^3 - 416\frac{27941}{91390}x^2y + 34\frac{109621}{639730}xy^2 + 20\frac{25}{28}y^3$$

$$531) \left(29\frac{44}{53}x - 1\frac{3}{50}y\right) \left(1\frac{23}{81}x^2 - \frac{12}{31}xy + 25\frac{1}{2}y^2\right)$$

$$38\frac{430}{1431}x^3 - 12\frac{97468}{107325}x^2y + 115\frac{4146827}{6654150}xy^2 - 27\frac{3}{100}y^3$$

$$532) \left(\frac{6}{47}x + 19\frac{37}{38}y\right) \left(1\frac{4}{21}x^2 + 27\frac{33}{64}xy + 47\frac{34}{63}y^2\right)$$

$$\frac{50}{329}x^3 + 27\frac{58175}{200032}x^2y + 555\frac{1577773}{2400384}xy^2 - 839\frac{27785}{37506}y^3$$

$$533) \left(31\frac{49}{60}x + \frac{20}{39}y\right) \left(94y^2 + 45\frac{65}{94}x^2 - 1\frac{1}{6}xy\right)$$

$$2990\frac{197}{1170}xy^2 + 1453\frac{847}{1128}x^3 - 13\frac{151313}{219960}x^2y + 48\frac{8}{39731}u^3 + 5\frac{78785}{181288}u^2v + 1\frac{10759}{15810}uv^2 - 23\frac{109}{153}v^3$$

$$534) \left(\frac{21}{68}u - \frac{10}{17}v\right) \left(\frac{16}{43}u^2 + 18\frac{19}{62}uv + 40\frac{14}{45}v^2\right)$$

$$535) \left(8\frac{26}{75}x + 1\frac{2}{19}y\right) \left(38x^2 + 1\frac{1}{4}xy + 19\frac{5}{11}y^2\right)$$

$$317\frac{13}{75}x^3 + 52\frac{13}{30}x^2y + 163\frac{47789}{62700}xy^2 + 21\frac{105}{209}y^3$$

$$536) \left(9\frac{35}{81}u - \frac{3}{4}v\right) \left(49\frac{36}{37}u^2 + 1\frac{37}{93}uv + \frac{59}{99}v^2\right)$$

$$4\frac{3621416}{9197793}u^3 - 24\frac{328975}{1114884}u^2v + 4\frac{284765}{497178}uv^2 - \frac{59}{132}v^3$$

$$537) \left(1\frac{30}{89}x + \frac{35}{97}y\right) \left(15\frac{1}{76}x^2 + \frac{12}{19}xy + 20\frac{85}{94}y^2\right)$$

$$20\frac{499}{6764}x^3 + 6\frac{171631}{656108}x^2y + 28\frac{2752561}{15418538}xy^2 + 7\frac{4949}{9118}y^3$$

$$538) \left(1\frac{11}{12}a - \frac{4}{41}b\right) \left(24ab + 1\frac{8}{21}a^2 + 2\frac{55}{69}b^2\right)$$

$$45\frac{745}{861}a^2b + 2\frac{163}{252}a^3 + 3\frac{29}{1476}ab^2 - \frac{772}{2829}b^3$$

$$539) \left(\frac{1}{2}x + 34\frac{37}{82}y\right) \left(1\frac{1}{2}x^2 - \frac{11}{15}xy + 35\frac{12}{67}y^2\right)$$

$$\frac{3}{4}x^3 + 51\frac{763}{2460}x^2y - 7\frac{5560}{8241}xy^2 + 1211\frac{5291}{5494}y^3$$

$$540) \left(\frac{1}{6}x + 23\frac{5}{69}y\right) \left(1\frac{4}{7}x^2 - 1\frac{7}{19}xy + 37\frac{34}{43}y^2\right)$$

$$\frac{11}{42}x^3 + 36\frac{263}{9177}x^2y - 25\frac{30937}{112746}xy^2 + 871\frac{2743}{2967}y^3$$

$$541) \left(15\frac{7}{11}a + 49\frac{25}{66}b\right) \left(24\frac{12}{67}a^2 + 25\frac{28}{81}ab + 31\frac{9}{59}b^2\right)$$

$$-28\frac{4247284}{10566369}a^3 - 35\frac{6887215}{10566369}a^2b - 90\frac{10294981}{21132738}ab^2 - 87\frac{6616114}{10566369}b^3$$

$$542) \left(\frac{6}{25}m + 12\frac{1}{12}n\right) \left(3\frac{5}{84}m^2 - 3\frac{16}{23}mn + 17\frac{3}{29}n^2\right)$$

$$\frac{257}{350}m^3 + 36\frac{9539}{115920}m^2n - 40\frac{110249}{200100}mn^2 - 48\frac{901756}{1050525}n^3$$

$$543) \left(19\frac{9}{32}x + 27\frac{31}{36}y\right) \left(1\frac{1}{2}x^2 - 1\frac{31}{47}xy - \frac{31}{35}y^2\right)$$

$$28\frac{59}{64}x^3 + 9\frac{1789}{2256}x^2y - 63\frac{49787}{157920}xy^2 - 24\frac{853}{1260}y^3$$

$$544) \left(47\frac{7}{46}x - 1\frac{8}{15}y\right)\left(50\frac{57}{62}x^2 + 13\frac{45}{61}xy - 1\frac{29}{38}y^2\right)$$

$$-24\frac{24754603}{49582020}x^3 - 36\frac{5603411}{8263670}x^2y - 17\frac{9548257}{16527340}xy^2 + 2\frac{401}{570}y^3$$

$$545) \left(\frac{9}{13}m - \frac{47}{49}n\right)\left(1\frac{53}{87}m^2 + 6\frac{61}{64}mn - \frac{39}{85}n^2\right)$$

$$1\frac{43}{377}m^3 + 3\frac{136901}{506688}m^2n - 6\frac{263087}{266560}mn^2 + \frac{1833}{4165}n^3$$

$$546) \left(1\frac{3}{53}x + 17\frac{73}{84}y\right)\left(21xy + 2\frac{23}{90}x^2 + 1\frac{2}{9}y^2\right)$$

$$62\frac{28237}{57240}x^2y + 2\frac{914}{2385}x^3 + 376\frac{1033}{1908}xy^2 + 21\frac{635}{756}y^3$$

$$547) \left(14\frac{11}{60}x - 1\frac{13}{35}y\right)\left(44\frac{68}{69}x^2 - \frac{1}{34}xy + 11\frac{71}{79}y^2\right)$$

$$-24\frac{735328}{9730035}x^3 - 6\frac{14554555}{15568056}x^2y + 3\frac{296274}{1081115}xy^2 - 16\frac{176}{553}y^3$$

$$548) \left(1\frac{45}{67}x + 18\frac{79}{84}y\right)\left(41\frac{37}{70}x^2 + 38\frac{17}{89}xy - 1\frac{6}{31}y^2\right)$$

$$-1\frac{31934591}{45288985}x^3 + \frac{925804561}{1086935640}x^2y - 1\frac{136561183}{181155940}xy^2 + 1\frac{55596833}{543467820}y^3$$

$$549) \left(1\frac{19}{37}u + 11\frac{1}{14}v\right)\left(33\frac{68}{69}u^2 + 26\frac{15}{44}uv + 12\frac{12}{13}v^2\right)$$

$$51\frac{1117}{2553}u^3 - 4\frac{1839}{74074}u^2v + 101\frac{2261417}{20444424}uv^2 - 67\frac{8201}{2555553}v^3$$

$$550) \left(4\frac{39}{82}x + \frac{45}{62}y\right)\left(27x^2 + 1\frac{5}{49}xy + 14\frac{19}{78}y^2\right)$$

$$120\frac{69}{82}x^3 + 24\frac{65901}{124558}x^2y + 64\frac{5330107}{9715524}xy^2 + 10\frac{545}{1612}y^3$$

$$551) \left(1\frac{25}{88}u + 42\frac{71}{99}v\right)\left(1\frac{29}{46}u^2 + 24\frac{5}{58}uv + 11\frac{23}{42}v^2\right)$$

$$2\frac{379}{4048}u^3 - 93\frac{2405}{765072}u^2v + 75\frac{18302167}{22187088}uv^2 - 87\frac{1267799}{2773386}v^3$$

$$552) \left(4y + 41\frac{37}{95}x\right)\left(44\frac{11}{60}x^2 - 1\frac{70}{79}xy + 14\frac{2}{59}y^2\right)$$

$$98\frac{15077}{22515}yx^2 - 73\frac{2215711}{6641925}y^2x + 56\frac{8}{59}y^3 - 111\frac{55780}{265677}x^3$$

$$553) \left(1\frac{1}{2}a + \frac{7}{17}b\right)\left(-39ab + 1\frac{39}{44}a^2 + 1\frac{7}{8}b^2\right)$$

$$-57\frac{541}{748}a^2b + 2\frac{73}{88}a^3 - 13\frac{67}{272}ab^2 + \frac{105}{136}b^3$$

$$554) \left(\frac{5}{11}x + \frac{15}{29}y\right)\left(33x^2 + 41\frac{37}{88}xy + \frac{9}{83}y^2\right)$$

$$15x^3 + 35\frac{25165}{28072}x^2y + 21\frac{100329}{211816}xy^2 + \frac{135}{2407}y^3$$

$$555) \left(11\frac{11}{17}a + 1\frac{5}{11}b\right)\left(1\frac{1}{2}a^2 + 1\frac{1}{3}ab - \frac{25}{71}b^2\right)$$

$$17\frac{8}{17}a^3 + 17\frac{133}{187}a^2b - 2\frac{6440}{39831}ab^2 - \frac{400}{781}b^3$$

$$556) \left(\frac{4}{5}x - \frac{1}{8}y\right)\left(20x^2 - 94xy + 6\frac{5}{18}y^2\right)$$

$$16x^3 - 77\frac{7}{10}x^2y + 16\frac{139}{180}xy^2 - \frac{113}{144}y^3$$

$$557) \left(41\frac{17}{32}m + \frac{15}{41}n\right)\left(16\frac{3}{40}m^2 + \frac{6}{47}mn + 6\frac{37}{88}n^2\right)$$

$$34\frac{2294027}{5426432}m^3 + 11\frac{5641}{30832}m^2n - 49\frac{2219507}{2466560}mn^2 + 2\frac{1259}{3608}n^3$$

$$558) \left(\frac{7}{13}x + 21\frac{1}{2}y\right)\left(21\frac{73}{84}x^2 - 1\frac{1}{54}xy + 37\frac{41}{98}y^2\right)$$

$$11\frac{121}{156}x^3 + 469\frac{12503}{19656}x^2y - 1\frac{7369}{9828}xy^2 + 804\frac{97}{196}y^3$$

$$559) \left(42\frac{34}{45}m - 1\frac{6}{35}n\right)\left(\frac{24}{29}m^2 - 1\frac{42}{53}mn + \frac{15}{23}n^2\right)$$

$$35\frac{167}{435}m^3 - 77\frac{293773}{484155}m^2n + 29\frac{25184}{25599}mn^2 - \frac{123}{161}n^3$$

$$560) \left(43\frac{24}{53}x - \frac{43}{59}y\right)\left(\frac{1}{9}x^2 + 48\frac{38}{65}xy + 36\frac{23}{65}y^2\right)$$

$$4\frac{395}{477}x^3 - 236\frac{1505717}{1829295}x^2y - 803\frac{17246}{28143}xy^2 - 26\frac{1899}{3835}y^3$$

$$561) \left(1\frac{1}{4}x + 21\frac{24}{31}y\right)\left(78y^2 + 2\frac{33}{85}x^2 - \frac{2}{3}xy\right)$$

$$82\frac{61}{62}xy^2 + 2\frac{67}{68}x^3 + 51\frac{533}{3162}x^2y + 1698\frac{12}{31}y^3$$

$$562) \left(46\frac{45}{67}x - \frac{10}{13}y\right)\left(71y^2 + \frac{1}{4}x^2 - 1\frac{45}{88}xy\right)$$

$$3314\frac{32543}{38324}xy^2 + 11\frac{179}{268}x^3 - 70\frac{55963}{76648}x^2y - 54\frac{8}{13}y^3$$

$$563) \left(\frac{32}{37}x - \frac{16}{17}y\right)\left(11\frac{19}{33}x^2 + 36\frac{81}{100}xy - 1\frac{13}{14}y^2\right)$$

$$10\frac{14}{1221}x^3 + 20\frac{488228}{518925}x^2y - 36\frac{34416}{110075}xy^2 + 1\frac{97}{119}y^3$$

$$564) \left(49\frac{11}{81}u + 40\frac{13}{19}v\right)\left(12\frac{46}{75}u^2 + 1\frac{29}{54}uv + 12\frac{3}{49}v^2\right)$$

$$-13\frac{38905}{678699}u^3 - 1\frac{6895697}{7271775}u^2v - 19\frac{85590811}{101804850}uv^2 - 15\frac{1351256}{2423925}v^3$$

$$565) \left(\frac{69}{88}x + 23\frac{1}{3}y\right)\left(2\frac{19}{42}x^2 + 49\frac{49}{54}xy - 1\frac{2}{3}y^2\right)$$

$$1\frac{1137}{1232}x^3 + 96\frac{17}{48}x^2y + 1163\frac{1421}{7128}xy^2 - 38\frac{8}{9}y^3$$

$$566) \left(-96v + 26\frac{4}{95}u\right)\left(46\frac{17}{90}u^2 + 20\frac{37}{76}uv - \frac{92}{97}v^2\right)$$

$$-84\frac{11307091}{15757650}vu^2 - 83\frac{3852229}{7878825}v^2u + 91\frac{5}{97}v^3 + 112\frac{105071}{175085}u^3$$

$$567) \left(27\frac{2}{3}x + 29\frac{47}{86}y\right)\left(-32y^2 + 1\frac{19}{97}x^2 + 46\frac{47}{54}xy\right)$$

$$499\frac{809}{1548}xy^2 + 33\frac{25}{291}x^3 + 1332\frac{54655}{675702}x^2y - 945\frac{21}{43}y^3$$

$$568) \left(\frac{1}{10}a + 23\frac{29}{32}b \right) \left(-28ab + 1\frac{20}{27}a^2 - 1\frac{1}{2}b^2 \right)$$

$$38\frac{391}{480}a^2b + \frac{47}{270}a^3 - 669\frac{21}{40}ab^2 - 35\frac{55}{64}b^3$$

$$569) \left(-48y + 30\frac{5}{18}x \right) \left(1\frac{72}{79}x^2 + 23\frac{26}{53}xy + \frac{10}{11}y^2 \right)$$

$$619\frac{12443}{25122}yx^2 - 1100\frac{115}{5247}y^2x - 43\frac{7}{11}y^3 + 57\frac{1241}{1422}x^3$$

$$570) \left(1\frac{1}{12}a + 1\frac{12}{19}b \right) \left(47\frac{19}{45}a^2 - \frac{15}{83}ab + 31\frac{13}{38}b^2 \right)$$

$$51\frac{101}{270}a^3 - 55\frac{8852027}{16180020}a^2b + 33\frac{8315}{12616}ab^2 + 51\frac{99}{722}b^3$$

$$571) \left(33\frac{27}{31}x + 48\frac{44}{45}y \right) \left(6\frac{16}{33}x^2 + 9\frac{7}{8}xy + 16\frac{1}{51}y^2 \right)$$

$$219\frac{221}{341}x^3 + 652\frac{16439}{184140}x^2y - 345\frac{1208759}{1565190}xy^2 - 587\frac{110257}{260865}y^3$$

$$572) \left(\frac{7}{39}m - \frac{1}{5}n \right) \left(26\frac{27}{34}m^2 - 1\frac{16}{31}mn + 5\frac{1}{12}n^2 \right)$$

$$4\frac{1073}{1326}m^3 - 5\frac{129679}{205530}m^2n + 1\frac{15641}{72540}mn^2 - 1\frac{1}{60}n^3$$

$$573) \left(\frac{13}{23}x - 1\frac{19}{47}y \right) \left(\frac{38}{39}x^2 + 43\frac{59}{99}xy + 84\frac{21}{52}y^2 \right)$$

$$\frac{38}{69}x^3 + 23\frac{379735}{1391247}x^2y - 13\frac{6659}{12972}xy^2 - 118\frac{641}{1222}y^3$$

$$574) \left(4\frac{45}{52}m + 45\frac{1}{2}n \right) \left(88n^2 + 2\frac{1}{13}m^2 + \frac{23}{89}mn \right)$$

$$439\frac{2111}{2314}mn^2 + 10\frac{71}{676}m^3 + 95\frac{3505}{4628}m^2n + 4004n^3$$

$$575) \left(1\frac{19}{60}x + 52\frac{10}{33}y \right) \left(44\frac{35}{46}x^2 + 50\frac{45}{56}xy + 44\frac{5}{38}y^2 \right)$$

$$58\frac{2581}{2760}x^3 + 14\frac{4121367}{5383840}x^2y + 56\frac{154941}{1345960}xy^2 - 85\frac{6674}{168245}y^3$$

$$576) \left(1\frac{24}{67}x - \frac{1}{76}y \right) \left(\frac{3}{4}x^2 + 42\frac{17}{40}xy - \frac{1}{5}y^2 \right)$$

$$1\frac{5}{268}x^3 + 57\frac{62341}{101840}x^2y - \frac{169027}{203680}xy^2 + \frac{1}{380}y^3$$

$$577) \left(16\frac{19}{74}x + 7\frac{12}{83}y \right) \left(-36xy + \frac{43}{54}x^2 - \frac{11}{24}y^2 \right)$$

$$-579\frac{91879}{165834}x^2y + 12\frac{1259}{1332}x^3 - 264\frac{32225}{49136}xy^2 - 3\frac{547}{1992}y^3$$

$$578) \left(4\frac{59}{88}u + 1\frac{37}{54}v \right) \left(49\frac{13}{14}u^2 + \frac{68}{81}uv + 16\frac{39}{68}v^2 \right)$$

$$-1\frac{10495981}{45804528}u^3 - 5\frac{8102179}{11451132}u^2v - 14\frac{28907821}{30536352}uv^2 - 18\frac{21853063}{22902264}v^3$$

$$579) \left(1\frac{3}{16}x + 44\frac{2}{63}y\right) \left(27x^2 + 1\frac{5}{6}xy + 39\frac{25}{51}y^2\right)$$

$$32\frac{1}{16}x^3 + 1191\frac{23}{672}x^2y + 127\frac{15923}{25704}xy^2 + 1738\frac{2642}{3213}y^3$$

$$580) \left(1\frac{49}{95}x - 1\frac{22}{49}y\right) \left(1\frac{81}{89}x^2 + \frac{8}{47}xy + 2\frac{12}{67}y^2\right)$$

$$-\frac{517678816}{1304614955}x^3 + \frac{204153174}{260922991}x^2y - \frac{43929224}{186373565}xy^2 + \frac{175674386}{1304614955}y^3$$

$$581) \left(17\frac{1}{2}u - 3\frac{5}{6}v\right) \left(1\frac{7}{15}u^2 + 47\frac{9}{44}uv + 1\frac{5}{14}v^2\right)$$

$$25\frac{2}{3}u^3 + 820\frac{1811}{3960}u^2v - 157\frac{53}{264}uv^2 - 5\frac{17}{84}v^3$$

$$582) \left(11\frac{7}{10}x - \frac{4}{25}y\right) \left(13\frac{7}{20}x^2 - \frac{3}{5}xy + 1\frac{13}{37}y^2\right)$$

$$156\frac{39}{200}x^3 - 9\frac{39}{250}x^2y + 15\frac{4194}{4625}xy^2 - \frac{8}{37}y^3$$

$$583) \left(30a + 7\frac{40}{41}b\right) \left(10\frac{45}{64}a^2 - 1\frac{1}{8}ab + 12\frac{31}{36}b^2\right)$$

$$321\frac{3}{32}a^3 + 51\frac{1611}{2624}a^2b + 376\frac{847}{984}ab^2 + 102\frac{283}{492}b^3$$

$$584) \left(39\frac{23}{24}x + 45\frac{29}{98}y\right) \left(1\frac{16}{59}x^2 + 1\frac{5}{9}xy + 42\frac{1}{9}y^2\right)$$

$$50\frac{375}{472}x^3 + 119\frac{230101}{312228}x^2y + 1753\frac{227}{1512}xy^2 + 1907\frac{407}{882}y^3$$

$$585) \left(\frac{13}{31}a - 39\frac{57}{64}b\right) \left(1\frac{63}{64}a^2 + 11\frac{13}{82}ab + \frac{4}{61}b^2\right)$$

$$\frac{1651}{1984}a^3 + 6\frac{212466819}{317566976}a^2b + 1\frac{2167407}{9923968}ab^2 - 2\frac{601}{976}b^3$$

$$586) \left(1\frac{7}{9}m - 1\frac{18}{25}n\right) \left(1\frac{11}{25}m^2 + 22\frac{22}{91}mn + \frac{16}{93}n^2\right)$$

$$2\frac{14}{25}m^3 + 37\frac{32813}{511875}m^2n - 37\frac{1808909}{1904175}mn^2 - \frac{688}{2325}n^3$$

$$587) \left(1\frac{9}{53}x + 23\frac{49}{93}y\right) \left(30\frac{19}{63}x^2 + 1\frac{1}{19}xy + \frac{11}{83}y^2\right)$$

$$\frac{178633454}{489701079}x^3 + 3\frac{350364319}{489701079}x^2y - 1\frac{63921589}{163233693}xy^2 + 3\frac{911}{7719}y^3$$

$$588) \left(29\frac{5}{38}x + 33\frac{53}{90}y\right) \left(1\frac{14}{33}x^2 + \frac{24}{25}xy + 14\frac{85}{99}y^2\right)$$

$$41\frac{205}{418}x^3 + 75\frac{227141}{282150}x^2y + 465\frac{15581}{156750}xy^2 + 499\frac{743}{8910}y^3$$

$$589) \left(7\frac{27}{59}m - 1\frac{7}{59}n\right) \left(68n^2 + \frac{61}{77}m^2 + 42\frac{7}{10}mn\right)$$

$$459\frac{104}{295}mn^2 + 5\frac{375}{413}m^3 + 317\frac{229}{413}m^2n - 76\frac{4}{59}n^3$$

$$590) \left(\frac{7}{33}x - 3\frac{19}{79}y \right) \left(19\frac{81}{91}x^2 + 43\frac{73}{94}xy + 16\frac{15}{26}y^2 \right)$$

$$4\frac{94}{429}x^3 - 55\frac{3748285}{22300278}x^2y + 54\frac{437447}{1715406}xy^2 - 53\frac{737}{1027}y^3$$

$$591) \left(10\frac{1}{74}x + 11\frac{11}{39}y \right) \left(\frac{4}{11}x^2 + 6\frac{16}{79}xy - \frac{7}{26}y^2 \right)$$

$$3\frac{261}{407}x^3 + \frac{5612881}{16301571}x^2y + 1\frac{243173}{587444}xy^2 - 3\frac{19}{507}y^3$$

$$592) \left(1\frac{58}{81}x + \frac{1}{2}y \right) \left(26\frac{1}{24}x^2 + \frac{5}{43}xy + 5\frac{29}{30}y^2 \right)$$

$$44\frac{1339}{1944}x^3 + 13\frac{12281}{55728}x^2y + 10\frac{15529}{52245}xy^2 + 2\frac{59}{60}y^3$$

$$593) \left(13\frac{67}{87}x - \frac{5}{18}y \right) \left(40\frac{7}{34}x^2 + 4\frac{7}{18}xy + \frac{1}{2}y^2 \right)$$

$$553\frac{946}{1479}x^3 + 49\frac{14227}{53244}x^2y + 5\frac{6257}{9396}xy^2 - \frac{5}{36}y^3$$

$$594) \left(57u + 21\frac{24}{25}v \right) \left(1\frac{1}{2}u^2 - \frac{9}{95}uv - \frac{46}{49}v^2 \right)$$

$$85\frac{1}{2}u^3 + 27\frac{27}{50}u^2v - 55\frac{68734}{116375}uv^2 - 20\frac{754}{1225}v^3$$

$$595) \left(2x + 25\frac{41}{94}y \right) \left(18\frac{29}{86}x^2 - \frac{20}{41}xy - \frac{3}{79}y^2 \right)$$

$$36\frac{29}{43}x^3 - 26\frac{16665279}{26184076}x^2y - 12\frac{73656}{152233}xy^2 - \frac{7173}{7426}y^3$$

$$596) \left(17\frac{5}{9}u + 34\frac{21}{86}v \right) \left(1\frac{44}{75}u^2 + 36\frac{5}{12}uv + 33\frac{29}{42}v^2 \right)$$

$$27\frac{577}{675}u^3 + 693\frac{3767}{5805}u^2v - 803\frac{483407}{541800}uv^2 + 1153\frac{2539}{3612}v^3$$

$$597) \left(\frac{1}{2}x + 12\frac{21}{80}y \right) \left(10\frac{62}{65}x^2 + 41\frac{34}{35}xy + \frac{59}{67}y^2 \right)$$

$$5\frac{31}{65}x^3 + 155\frac{699}{2275}x^2y + 515\frac{21563}{187600}xy^2 + 10\frac{4279}{5360}y^3$$

$$598) \left(45\frac{1}{24}a + 1\frac{53}{65}b \right) \left(90b^2 + 2a^2 + 23\frac{5}{17}ab \right)$$

$$4096\frac{167}{4420}ab^2 + 90\frac{1}{12}a^3 + 1052\frac{1849}{2210}a^2b + 163\frac{5}{13}b^3 - \frac{81}{217}x^3 + \frac{41841}{72695}x^2y - \frac{172260}{189007}xy^2 - \frac{4352}{4355}y^3$$

$$599) \left(\frac{15}{31}x + 1\frac{1}{67}y \right) \left(\frac{27}{35}x^2 - \frac{3}{7}xy - \frac{64}{65}y^2 \right)$$

$$600) \left(\frac{17}{37}a + 34\frac{7}{10}b \right) \left(43\frac{33}{70}a^2 + 32\frac{52}{71}ab + 49\frac{3}{4}b^2 \right)$$

$$19\frac{2521}{2590}a^3 + 355\frac{1266919}{1838900}a^2b - 9\frac{251253}{1838900}ab^2 + 558\frac{1898389}{3677800}b^3$$