

Polynomials - two variables - fractions

Simplify each expression.

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

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

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

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

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

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

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

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

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

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

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

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

$$13) \left(\frac{3}{10}u^3 - 1\frac{1}{5}u^4v \right) - \left(5\frac{1}{4}u^3 + 2u^4v \right)$$

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

$$15) \left(3\frac{3}{5} - 1\frac{5}{6}m^3n^2 \right) - \left(1\frac{7}{10}m^3n^2 - 2 \right)$$

$$16) \left(\frac{3}{7}x^4 - x^3y \right) + \left(10x^4 + \frac{3}{10}x^3y \right)$$

$$17) \left(5x^4y + \frac{3}{7}x^2 \right) + \left(1\frac{1}{5}x^2 + 4\frac{1}{4}x^4y \right)$$

$$18) \left(1\frac{1}{2}m^2n^2 - \frac{6}{7}mn \right) + \left(4\frac{1}{2}mn - 2\frac{5}{7}m^2n^2 \right)$$

$$19) \left(3\frac{1}{3}u + 1\frac{1}{3}u^2v \right) + \left(1\frac{1}{2}u + 3\frac{2}{9}u^2v \right)$$

$$20) \left(1\frac{4}{9}x^4 + 5\frac{5}{6}x^3y^3 \right) - \left(7x^3y^3 + 5\frac{1}{4}x^4 \right)$$

$$21) \left(uv^2 + \frac{1}{2}u^3v \right) - \left(\frac{7}{9}u^3v + 5\frac{1}{4}u^3v^2 \right)$$

$$22) \left(8\frac{4}{5}x^3y + 1\frac{5}{8}xy^4 \right) - \left(1\frac{9}{10}xy^4 + 5\frac{7}{9}xy^3 \right)$$

$$23) \left(1\frac{3}{4}a^3b^3 + \frac{4}{9}a^2b^4 \right) - \left(\frac{3}{7}a^4b + 1\frac{1}{7}a^2b^4 \right)$$

$$24) \left(3b^2 + 1\frac{1}{8}a^2b^4 \right) + \left(2\frac{5}{7}a^2b^4 - 9b^2 \right)$$

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

$$26) \left(\frac{3}{4}m^4n^3 + 4\frac{2}{7}m^2n^4 \right) - \left(5\frac{3}{8}m^4n^3 + 3\frac{3}{4}m^3n^2 \right)$$

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

$$28) \left(4\frac{2}{3}m^2n^3 - \frac{1}{3}m \right) - \left(1\frac{9}{10}m + 4\frac{1}{3}m^3n \right)$$

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

$$30) \left(\frac{4}{7}x^2y^2 + \frac{2}{7}x \right) + \left(1\frac{2}{7}x + \frac{8}{9}x^2y^2 \right)$$

Answers to Polynomials - two variables - fractions

- 1) $1\frac{1}{2}x^4y^3 - 1\frac{4}{9}x^2y^2$ 2) $6\frac{5}{42}v^4 - \frac{1}{6}v^2u$ 3) $1\frac{8}{15}y^3x^2 - 3yx^2$ 4) $\frac{53}{63}m^4n^2 + 8\frac{1}{2}mn^2$
- 5) $-3\frac{4}{7}x^3y^2 + 4\frac{1}{2}xy^3$ 6) $-1\frac{13}{18}x^4y^3 - 3\frac{1}{2}xy^3$ 7) $3\frac{51}{56}b^3a^3 - \frac{1}{18}b^4$
- 8) $9\frac{1}{8}u^4v^4 + 5\frac{3}{10}uv^4$ 9) $-\frac{2}{5}xy^4 + 1\frac{9}{10}$ 10) $-1\frac{7}{8}y^4 + 2\frac{4}{5}y^3$
- 11) $12\frac{1}{3}x^2y^3 + 1\frac{41}{45}x^4$ 12) $1\frac{13}{24}y^2x^4 + 12y^4$ 13) $-3\frac{1}{5}u^4v - 4\frac{19}{20}u^3$
- 14) $-\frac{1}{3}x^4 + 2\frac{1}{5}y^4$ 15) $-3\frac{8}{15}m^3n^2 + 5\frac{3}{5}$ 16) $-\frac{7}{10}x^3y + 10\frac{3}{7}x^4$ 17) $9\frac{1}{4}x^4y + 1\frac{22}{35}x^2$
- 18) $-1\frac{3}{14}m^2n^2 + 3\frac{9}{14}mn$ 19) $4\frac{5}{9}u^2v + 4\frac{5}{6}u$ 20) $-1\frac{1}{6}x^3y^3 - 3\frac{29}{36}x^4$
- 21) $-5\frac{1}{4}u^3v^2 - \frac{5}{18}u^3v + uv^2$ 22) $-\frac{11}{40}xy^4 + 8\frac{4}{5}x^3y - 5\frac{7}{9}xy^3$ 23) $1\frac{3}{4}a^3b^3 - \frac{44}{63}a^2b^4 - \frac{3}{7}a^4b$
- 24) $3\frac{47}{56}b^4a^2 - 6b^2$ 25) $\frac{11}{14}x^4y^2 - 1\frac{2}{3}x^2y^3 + xy$
- 26) $-4\frac{5}{8}m^4n^3 + 4\frac{2}{7}m^2n^4 - 3\frac{3}{4}m^3n^2$ 27) $-5\frac{1}{4}xy^4 + 2x^2y^2 + 1\frac{17}{20}xy$
- 28) $4\frac{2}{3}m^2n^3 - 4\frac{1}{3}m^3n - 2\frac{7}{30}m$ 29) $-1\frac{1}{3}uv^4 - \frac{2}{5}v^3 + 5\frac{1}{2}$ 30) $1\frac{29}{63}x^2y^2 + 1\frac{4}{7}x$