Polynomials - single variable - fractions

Simplify each expression.

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

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

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

4) $\left(2k^3 - \frac{1}{6}k^4 + 2\frac{2}{9}\right) - \left(4\frac{3}{7}k^3 - \frac{4}{9}k^4 + \frac{1}{7}\right)$

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

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

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

8) $\left(2\frac{4}{7}n - 3\frac{1}{2} - \frac{1}{10}n^4\right) - \left(4\frac{1}{4} - 6n^4 + \frac{5}{8}n\right)$

9) $\left(\frac{1}{6}n + 1\frac{2}{3} + 2n^4\right) + \left(6\frac{3}{8}n + 3\frac{1}{3}n^4 + \frac{1}{2}\right)$

10) $\left(4\dfrac{5}{8}x + 4\dfrac{7}{8} - \dfrac{2}{7}x^4\right) + \left(1\dfrac{8}{9}x^4 + 1\dfrac{2}{5}x^2 + 1\dfrac{1}{2}x\right)$

11) $\left(5\dfrac{2}{3}x^3 - 1\dfrac{1}{2}x + 1\dfrac{5}{6}\right) - \left(2\dfrac{1}{8}x^3 + 2\dfrac{5}{6}x - 1\dfrac{3}{4}\right)$ 12) $\left(1\dfrac{1}{5} - 1\dfrac{6}{7}b - \dfrac{2}{3}b^2\right) - \left(4\dfrac{1}{3}b + \dfrac{3}{10} + \dfrac{1}{2}b^2\right)$

13) $\left(8x^3 - 3\dfrac{1}{2}x^4 + 1\dfrac{1}{5}x\right) + \left(\dfrac{1}{2}x^3 + \dfrac{7}{8}x - x^4\right)$ 14) $\left(2k^2 + 4\dfrac{5}{6} + k\right) + \left(\dfrac{4}{5} + 3\dfrac{2}{3}k + 4\dfrac{2}{3}k^2\right)$

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

16) $\left(\frac{2}{3}n^4 + 8\frac{1}{10}n^2 - \frac{3}{4}\right) + \left(\frac{5}{6} + 4\frac{7}{10}n^2 - 1\frac{3}{8}n\right)$

17) $\left(2\frac{4}{5}r + \frac{1}{6}r^4 + 1\frac{1}{5}\right) - \left(3\frac{1}{2}r^2 - 1\frac{1}{2} + \frac{1}{4}r\right)$

18) $\left(4\frac{5}{8}r^3 + 5\frac{3}{4}r^2 - \frac{2}{3}r^4\right) - \left(3\frac{1}{9}r^3 + 4\frac{3}{4}r^4 + 4\frac{1}{3}r^2\right)$

19) $\left(n + 4\frac{9}{10}n^2 - \frac{5}{7}\right) - \left(1\frac{3}{10}n^2 + 1\frac{2}{3}n + 3\frac{1}{2}\right)$

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

21) $\left(2\frac{1}{9}v^4 + \frac{3}{5} + 2v^3\right) - \left(\frac{1}{10}v^3 + 2\frac{1}{2} + 4\frac{3}{5}v^4\right)$

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

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

24) $\left(1\dfrac{2}{7}n^4 - 3\dfrac{1}{2}n^3 + 2n^2\right) + \left(\dfrac{4}{9}n^4 - 1\dfrac{5}{9}n^2 + 1\dfrac{4}{5}n^3\right)$

25) $\left(3\dfrac{7}{9}x^3 - 9x^4 + 5\dfrac{5}{6}x^2\right) + \left(\dfrac{4}{5}x^3 + \dfrac{1}{4}x^2 - 9\dfrac{2}{5}x^4\right)$

26) $\left(1\dfrac{5}{7}x^4 - x^3 - 2\dfrac{7}{8}x\right) - \left(2\dfrac{1}{4} + 1\dfrac{1}{6}x^4 - \dfrac{1}{5}x\right)$

27) $\left(\dfrac{1}{4} - 2\dfrac{5}{8}x^3 - 7x^4\right) + \left(1 - \dfrac{4}{7}x^3 - 2x^4\right)$

28) $\left(3\dfrac{1}{2} + \dfrac{1}{3}k^2 + \dfrac{4}{7}k^3\right) + \left(1\dfrac{2}{3}k^2 + 4\dfrac{2}{7}k^3 + 5\dfrac{5}{6}\right)$

29) $\left(1\dfrac{1}{4}n^2 + 2\dfrac{1}{7} - 3\dfrac{7}{10}n^4\right) - \left(\dfrac{1}{4}n + \dfrac{1}{2}n^4 + 4\dfrac{2}{3}\right)$

30) $\left(\dfrac{2}{3} + 1\dfrac{5}{7}r^4 - \dfrac{1}{2}r^2\right) - \left(1\dfrac{3}{10} + 1\dfrac{1}{4}r^2 - 3\dfrac{1}{2}r^3\right)$

Answers to Polynomials - single variable - fractions

1) $\frac{1}{6}x^3 - \frac{31}{90}x^2 - \frac{1}{4}$

2) $2\frac{19}{24}r^3 + \frac{4}{5}r^2 + 3\frac{7}{72}r$

3) $5\frac{9}{10}x^4 - \frac{1}{4}x^2 + 2\frac{1}{5}$

4) $\frac{5}{18}k^4 - 2\frac{3}{7}k^3 + 2\frac{5}{63}$

5) $-\frac{13}{20}a^4 - 1\frac{39}{40}a^3 + 2\frac{5}{9}a^2$

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

7) $2\frac{2}{5}p^4 - 4\frac{3}{8}p^3 + 1\frac{1}{10}p^2 + 5\frac{2}{9}$

8) $5\frac{9}{10}n^4 + 1\frac{53}{56}n - 7\frac{3}{4}$

9) $5\frac{1}{3}n^4 + 6\frac{13}{24}n + 2\frac{1}{6}$

10) $1\frac{38}{63}x^4 + 1\frac{2}{5}x^2 + 6\frac{1}{8}x + 4\frac{7}{8}$

11) $3\frac{13}{24}x^3 - 4\frac{1}{3}x + 3\frac{7}{12}$

12) $-1\frac{1}{6}b^2 - 6\frac{4}{21}b + \frac{9}{10}$

13) $-4\frac{1}{2}x^4 + 8\frac{1}{2}x^3 + 2\frac{3}{40}x$

14) $6\frac{2}{3}k^2 + 4\frac{2}{3}k + 5\frac{19}{30}$

15) $5\frac{14}{15}x^4 + \frac{1}{56}x + 1\frac{3}{8}$

16) $\frac{2}{3}n^4 + 12\frac{4}{5}n^2 - 1\frac{3}{8}n + \frac{1}{12}$

17) $\frac{1}{6}r^4 - 3\frac{1}{2}r^2 + 2\frac{11}{20}r + 2\frac{7}{10}$

18) $-5\frac{5}{12}r^4 + 1\frac{37}{72}r^3 + 1\frac{5}{12}r^2$

19) $3\frac{3}{5}n^2 - \frac{2}{3}n - 4\frac{3}{14}$

20) $-3\frac{1}{4}v^4 + 3\frac{2}{7}v^3 - \frac{5}{6}v^2 + 2\frac{2}{3}$

21) $-2\frac{22}{45}v^4 + 1\frac{9}{10}v^3 - 1\frac{9}{10}$

22) $\frac{1}{2}x^3 - 1\frac{4}{5}x^2 - 5\frac{1}{10}x - 2\frac{37}{63}$

23) $3\frac{1}{5}a^4 + 3\frac{3}{4}a - 4$

24) $1\frac{46}{63}n^4 - 1\frac{7}{10}n^3 + \frac{4}{9}n^2$

25) $-18\frac{2}{5}x^4 + 4\frac{26}{45}x^3 + 6\frac{1}{12}x^2$

26) $\frac{23}{42}x^4 - x^3 - 2\frac{27}{40}x - 2\frac{1}{4}$

27) $-9x^4 - 3\frac{11}{56}x^3 + 1\frac{1}{4}$

28) $4\frac{6}{7}k^3 + 2k^2 + 9\frac{1}{3}$

29) $-4\frac{1}{5}n^4 + 1\frac{1}{4}n^2 - \frac{1}{4}n - 2\frac{11}{21}$

30) $1\frac{5}{7}r^4 + 3\frac{1}{2}r^3 - 1\frac{3}{4}r^2 - \frac{19}{30}$