

## Polynomials - two variables - fractions

Simplify each difference.

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

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

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

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

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

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

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

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

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

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

$$11) \left(\frac{2}{3}v^3 + \frac{3}{8}u^2v^2\right) - \left(2\frac{1}{6}v^3 + 1\frac{4}{5}u^2v^2\right)$$

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

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

$$14) \left(1\frac{2}{3}m^2n^4 + \frac{1}{3}mn^2\right) - \left(2\frac{5}{6}m^2n^4 - 1\frac{1}{3}mn^2\right)$$

$$15) \left(\frac{4}{7}mn^2 - 2\frac{7}{8}m^3n^2\right) - \left(\frac{1}{2}mn^2 + 1\frac{1}{4}m^3n^2\right)$$

$$16) \left(\frac{1}{2}xy^3 + 1\frac{7}{8}y^4\right) - \left(\frac{3}{7}y^4 + \frac{2}{7}xy^3\right)$$

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

$$18) \left(\frac{1}{2}x^4y^3 + 1\frac{1}{2}xy^4\right) - \left(2x^4y^3 + 4\frac{7}{8}xy^4\right)$$

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

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

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

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

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

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

$$25) \left( u^2v + 2\frac{5}{6}u^4v \right) - \left( \frac{1}{8} + \frac{1}{3}u^4v \right)$$

$$26) \left( \frac{2}{7}xy^3 + \frac{4}{7}x^2y \right) - \left( \frac{1}{2}xy^3 + \frac{2}{3}x^2y \right)$$

$$27) \left( 1\frac{6}{7}xy^4 + 4\frac{5}{7}x^4 \right) - \left( 2\frac{3}{4}x^4 + \frac{5}{6} \right)$$

$$28) \left( \frac{6}{7}u^3 + \frac{1}{4}u^3v \right) - \left( 2\frac{7}{8}u^3v + 2\frac{1}{2}u^4v \right)$$

$$29) (7x^2y^2 - x^3y) - \left( 1\frac{1}{2}x^2y^2 + 1\frac{1}{4}x^3y \right)$$

$$30) \left( 1\frac{1}{5}b + 1\frac{7}{8}a^3b^2 \right) - \left( 3b - 6\frac{4}{7}a^3b^2 \right)$$

## Answers to Polynomials - two variables - fractions

- 1)  $\frac{1}{2}a^2 - 5\frac{3}{8}a$       2)  $1\frac{1}{4}x^4y + 2\frac{9}{10}x^4$       3)  $-3\frac{4}{5}u^3v^4 + \frac{1}{8}u^2v$       4)  $3\frac{1}{10}x^3 - 2\frac{1}{6}x$
- 5)  $-6\frac{1}{3}x^3y^2 - \frac{1}{14}x^2y$       6)  $-\frac{1}{3}y^3 - 2\frac{1}{8}x$       7)  $-2\frac{1}{3}a^4b - \frac{9}{14}a^3$       8)  $2\frac{11}{12}x^3y^3 - 3\frac{5}{6}x^3y$
- 9)  $-4\frac{5}{6}x^2y^2 - 1\frac{1}{7}xy$       10)  $1\frac{1}{30}x^2y^3 - \frac{2}{21}x^3y^2$       11)  $-1\frac{17}{40}v^2u^2 - 1\frac{1}{2}v^3$
- 12)  $-1\frac{1}{5}y^3x + 4y^4$       13)  $-\frac{11}{12}y^3$       14)  $-1\frac{1}{6}m^2n^4 + 1\frac{2}{3}mn^2$
- 15)  $-4\frac{1}{8}m^3n^2 + \frac{1}{14}mn^2$       16)  $\frac{3}{14}y^3x + 1\frac{25}{56}y^4$       17)  $-\frac{5}{6}y^3 + 3\frac{4}{7}x^2$
- 18)  $-1\frac{1}{2}x^4y^3 - 3\frac{3}{8}xy^4$       19)  $2\frac{55}{56}a^4b^4 - \frac{1}{28}a^3b^3$       20)  $5\frac{5}{8}m^2n^4 + 2\frac{3}{7}m + 1\frac{1}{6}$
- 21)  $\frac{4}{5}v^4u^4 - 1\frac{3}{4}v^4$       22)  $4\frac{7}{8}y^4x^3 - 3\frac{1}{6}yx^3 - 4\frac{4}{5}y$       23)  $2\frac{3}{14}x^4y^4 + 2\frac{3}{56}x^4$
- 24)  $1\frac{2}{5}mn^4 - 4\frac{19}{56}m^3 - 5m^2n$       25)  $2\frac{1}{2}u^4v + u^2v - \frac{1}{8}$       26)  $-\frac{3}{14}xy^3 - \frac{2}{21}x^2y$
- 27)  $1\frac{6}{7}xy^4 + 1\frac{27}{28}x^4 - \frac{5}{6}$       28)  $-2\frac{1}{2}u^4v - 2\frac{5}{8}u^3v + \frac{6}{7}u^3$       29)  $5\frac{1}{2}x^2y^2 - 2\frac{1}{4}x^3y$
- 30)  $8\frac{25}{56}b^2a^3 - 1\frac{4}{5}b$