

## Polynomials - two variables - decimals

**Simplify each expression.**

1)  $(2.4a^4b^4 - 7.7a^2b^4 + 1.1a^3b) - (3.548a^2b^4 - 2.89a^3b + 6.3a^4b^4)$

2)  $(1.1a^2b^3 + 4.6a^2b^4 - 9.1a^4b^3) + (0.5a^2b^3 - 3.1a^4b^3 + 5.6a^2b^4)$

3)  $(7.296x + 9.17x^4 - x^2) + (5x - 9.85x^4 - 7.8x^2)$

$$4) (5.5x^4 + 8.2x^3y - 6.7x) + (7.8x^3y + 8.2x - 5.22x^4)$$

$$5) (4.2y^4 + 2.8xy + 6) + (9.4xy - 2.4 - 0.6y^4)$$

$$6) (0.463x^2y^3 - 8.9xy^4 - 2.3x^2) - (4.1x^2 + 9.3x^2y^3 - 5.8xy^4)$$

$$7) (10x^2y^3 + 1.3x^3y^4 + 3.7x) + (1.6x^2y^3 + 6.8x^3y^4 - 3.9xy^4)$$

$$8) (2.5x^4y^4 + 0.5 - 8x^3y^3) + (3.8x^4y^4 - 7.2 + 7.8x^3y^3)$$

$$9) (8.8m + 1.6m^2n^4 - 2.096mn) - (3.8mn^2 + 8.2m - 1.5mn)$$

$$10) (1.6x^3y^4 + 9.6xy^3 - 3.3x^3y^3) + (1.54x^3y^3 - 1.07xy^3 - 3.5x^3y^4)$$

$$11) (8.7 + 5.7u^4 - 9.8u^3) + (0.8u^2v + 7.5u^4 - 6.8)$$

$$12) (4.99mn^2 - 2n - 1.1) + (3.3n - 1.6mn^2 + 7.7)$$

$$13) (3.68x^2y^2 - 6.1x^3y - 6.301y^2) + (1.83x^2y^2 + 7.7y^2 + 2.51x^3y)$$

$$14) (1.8x^2y^4 + 6x^2 + y^3) - (9.1x^2y^4 + 8.8x^2 + 9.1y^3)$$

$$15) (3.4y^3 - 1.6x^4y^4 - 9.9x^2y) - (1.4x^4y^4 - 6.02x^2y - 3.1y^3)$$

$$16) (2.1a^4b^4 - 9.3a^3b^4 - 1.7ab^2) + (3.5a^4b^4 + 7.4ab^2 - 5.87a^3b^4)$$

$$17) (4.8y + 5.7x^4y + 8.8y^2) + (5.7x^4y + 7.7y^2 + 3.5x^4y^3)$$

$$18) (5x^4y + 1.656y^2 + 9.9x^2y^2) + (3x^4y^3 + 7.2x^2y^2 - 7.9y^2)$$

$$19) (7.9m - 5.8m^3n^4 - 6.5m^4n^4) + (1.7m - 10m^4n^4 - 8.13m^3n^4)$$

$$20) (5.3xy^3 + 9xy^2 - 5.5x^3y^3) + (9.9xy^2 - 0.4xy^3 + 9.6x^3y^3)$$

$$21) (8m^3 - 9.9m^3n^4 - 4.79m^4n^4) + (6.2m^4n^4 + 7m^3n^4 - 5.4m^3n^3)$$

$$22) (8.4x^4 + 7.7x^4y + 4.98x^3y^4) + (6.3x^4 + 1.98x^3y^4 - 9.5x^4y)$$

$$23) (0.8u^3v - 1.9uv - 8.7v^4) - (9.14uv + 0.9u^4v^2 + 5.6v^4)$$

$$24) (7.1x^2 - 7.7y + 5.56x^2y^3) - (3.2x^2 - 1.1y - 7.4x^2y^3)$$

$$25) (0.9u^2v - 5.5u^4v^4 + 4.3v^3) - (10u^4v^4 - 9.1u^2v^3 - 0.8u^2v)$$

$$26) (1.4a^3b^2 + 5.9a^2b^3 + 4.2a^3b) + (6.79a^3b^2 - 8.6a^2b^3 - 2.2a^3b)$$

$$27) (6.3x^3 - 6.8x^3y + 0.9y^4) + (3.49x^2y^3 + 9.62x^3y + 0.1x^3)$$

$$28) (0.1a^2b^4 - 1.8ab^2 - 6ab^3) - (1.4a^2b^4 + 1.3ab^2 + 0.19ab^3)$$

$$29) (9.8x^2y - 5.2x^3y^3 - 4.9xy) + (8.2x^3y - 8.2x^2y - 5x^3y^3)$$

$$30) (7m^2n^2 + 2.8m^3n^4 - 2.8mn^3) + (2.7m^3n^4 - 7.8 - 6.1m^2n^2)$$



## Answers to Polynomials - two variables - decimals

- 1)  $-3.9a^4b^4 - 11.248a^2b^4 + 3.99a^3b$       2)  $-12.2a^4b^3 + 10.2a^2b^4 + 1.6a^2b^3$   
3)  $-0.68x^4 - 8.8x^2 + 12.296x$       4)  $0.28x^4 + 16x^3y + 1.5x$       5)  $3.6y^4 + 12.2xy + 3.6$   
6)  $-8.837x^2y^3 - 3.1xy^4 - 6.4x^2$       7)  $8.1x^3y^4 + 11.6x^2y^3 - 3.9xy^4 + 3.7x$   
8)  $6.3x^4y^4 - 0.2x^3y^3 - 6.7$       9)  $1.6m^2n^4 - 3.8mn^2 - 0.596mn + 0.6m$   
10)  $-1.9x^3y^4 - 1.76x^3y^3 + 8.53xy^3$       11)  $13.2u^4 - 9.8u^3 + 0.8u^2v + 1.9$   
12)  $3.39mn^2 + 1.3n + 6.6$       13)  $5.51x^2y^2 - 3.59x^3y + 1.399y^2$   
14)  $-7.3x^2y^4 - 8.1y^3 - 2.8x^2$       15)  $-3x^4y^4 + 6.5y^3 - 3.88x^2y$   
16)  $5.6a^4b^4 - 15.17a^3b^4 + 5.7ab^2$       17)  $3.5x^4y^3 + 11.4x^4y + 16.5y^2 + 4.8y$   
18)  $3x^4y^3 + 5x^4y + 17.1x^2y^2 - 6.244y^2$       19)  $-16.5m^4n^4 - 13.93m^3n^4 + 9.6m$   
20)  $4.1x^3y^3 + 4.9xy^3 + 18.9xy^2$       21)  $1.41m^4n^4 - 2.9m^3n^4 - 5.4m^3n^3 + 8m^3$   
22)  $6.96x^3y^4 - 1.8x^4y + 14.7x^4$       23)  $-0.9u^4v^2 - 14.3v^4 + 0.8u^3v - 11.04uv$   
24)  $12.96x^2y^3 + 3.9x^2 - 6.6y$       25)  $-15.5u^4v^4 + 9.1u^2v^3 + 4.3v^3 + 1.7u^2v$   
26)  $8.19a^3b^2 - 2.7a^2b^3 + 2a^3b$       27)  $3.49x^2y^3 + 2.82x^3y + 0.9y^4 + 6.4x^3$   
28)  $-1.3a^2b^4 - 6.19ab^3 - 3.1ab^2$       29)  $-10.2x^3y^3 + 8.2x^3y + 1.6x^2y - 4.9xy$   
30)  $5.5m^3n^4 + 0.9m^2n^2 - 2.8mn^3 - 7.8$