

Addition and Subtraction of Polynomials

1 Combine like terms and simplify:

$$-x^2 - x^2 - x^2 - x^2 = \underline{\hspace{2cm}}$$

2 Combine like terms and simplify:

$$-7a^2b - 6a^2b = \underline{\hspace{2cm}}$$

3 Combine like terms and simplify:

$$8y^4 - 10y^4 + y^4 = \underline{\hspace{2cm}}$$

4 Combine like terms and simplify:

$$x - 5y + 3x - 6y = \underline{\hspace{2cm}}$$

5 Combine like terms and simplify:

$$2x - 5xy + 4x + 3xy = \underline{\hspace{2cm}}$$

6 Combine like terms and simplify:

$$-3x^2y + 3xy^2 + 2x^2y - 2xy^2 = \underline{\hspace{2cm}}$$

7

Simplify:

$$(3a^2 + 4ab - 2b^2) - (5a^2 - 2ab - 3b^2) = \underline{\hspace{4cm}}$$

8

Simplify:

$$6x^2 + 3x - y + 5 - 10x^2 + x + 5y - 1 = \underline{\hspace{4cm}}$$

9 $(x + 1) + (2x + 3) + (4x + 5) + (6x + 7) = \underline{\hspace{2cm}}$

A. $12x + 16$

B. $13x + 16$

C. $13x + 12$

D. $16x + 13$

10 Which of the following is true?

A. $x^2 - (x - y + 2z) = x^2 - x + y + 2z$

B. $x - (-2x + 3y - 1) = x + 2x - 3y + 1$

C. $3x - (5x - x + 1) = 3x - 5x - x + 1$

D. $(x - 1) - (x^2 - 2) = x - 1 - x^2 - 2$

Addition and Subtraction of Polynomials

- 1 Combine like terms and simplify:

$$-x^2 - x^2 - x^2 - x^2 = \underline{\hspace{2cm}}$$

Answer $-4x^2$

Solution $-x^2 - x^2 - x^2 - x^2 = -4x^2$

- 2 Combine like terms and simplify:

$$-7a^2b - 6a^2b = \underline{\hspace{2cm}}$$

Answer $-13a^2b$

Solution $-7a^2b - 6a^2b = -13a^2b$

- 3 Combine like terms and simplify:

$$8y^4 - 10y^4 + y^4 = \underline{\hspace{2cm}}$$

Answer $-y^4$

Solution $8y^4 - 10y^4 + y^4 = -y^4$

- 4 Combine like terms and simplify:

$$x - 5y + 3x - 6y = \underline{\hspace{2cm}}$$

Answer $4x - 11y$



Solution $x - 5y + 3x - 6y = 4x - 11y$

5 Combine like terms and simplify:

$$2x - 5xy + 4x + 3xy = \underline{\hspace{2cm}}$$

Answer $6x - 2xy$

Solution $2x - 5xy + 4x + 3xy = 6x - 2xy$

6 Combine like terms and simplify:

$$-3x^2y + 3xy^2 + 2x^2y - 2xy^2 = \underline{\hspace{2cm}}$$

Answer $-x^2y + xy^2$

Solution

$$\begin{aligned} & -3x^2y + 3xy^2 + 2x^2y - 2xy^2 \\ &= (-3x^2y + 2x^2y) + (3xy^2 - 2xy^2) \\ &= -x^2y + xy^2 \end{aligned}$$

7 Simplify:

$$(3a^2 + 4ab - 2b^2) - (5a^2 - 2ab - 3b^2) = \underline{\hspace{2cm}}$$

Answer $-2a^2 + 6ab + b^2$

Solution $(3a^2 + 4ab - 2b^2) - (5a^2 - 2ab - 3b^2) = -2a^2 + 6ab + b^2$

8 Simplify:

$$6x^2 + 3x - y + 5 - 10x^2 + x + 5y - 1 = \underline{\hspace{2cm}}$$

Answer $-4x^2 + 4x + 4y + 4$

Solution $6x^2 + 3x - y + 5 - 10x^2 + x + 5y - 1$
 $= (6x^2 - 10x^2) + (3x + x) + (-y + 5y) + (5 - 1)$
 $= -4x^2 + 4x + 4y + 4$

9 $(x + 1) + (2x + 3) + (4x + 5) + (6x + 7) = \underline{\hspace{2cm}}$

A. $12x + 16$

B. $13x + 16$

C. $13x + 12$

D. $16x + 13$

Answer B

Solution $(x + 1) + (2x + 3) + (4x + 5) + (6x + 7) = 13x + 16$

The answer is B.

10 Which of the following is true?

A. $x^2 - (x - y + 2z) = x^2 - x + y + 2z$

B. $x - (-2x + 3y - 1) = x + 2x - 3y + 1$

C. $3x - (5x - x + 1) = 3x - 5x - x + 1$

D. $(x - 1) - (x^2 - 2) = x - 1 - x^2 - 2$

Answer B

Solution Option A: $x^2 - (x - y + 2z) = x^2 - x + y - 2z$

Option B: $x - (-2x + 3y - 1) = x + 2x - 3y + 1$, correct.

Option C: $3x - (5x - x + 1) = 3x - 5x + x - 1$

Option D: $(x - 1) - (x^2 - 2) = x - 1 - x^2 + 2$

The answer is B.