

Adding & Subtracting Polynomials Review Part 2

December-02-16
12:32 PM

Mathematics 9
Polynomials
Adding & Subtracting Polynomials Review Part 2

A. Examples

1. Evaluate each polynomial for $x = 3$.

a) $(4x+2-3x+3)$

$$x + 5$$

$$(3) + 5$$

$$= \boxed{8}$$

To Solve

- a) Simplify the expression first.
b) Then substitute in the value for x and evaluate.

b) $(x^2 - 3x) - (2x^2 + 2x)$

$$(x^2 - 3x) - (2x^2 + 2x)$$

$$-x^2 - 5x$$

$$-(3)^2 - 5(3)$$

$$-9 - 15$$

$$= \boxed{-24}$$

c) $(4x-1) + (2x+3) - (-6x-5)$

$$(4x-1) + (2x+3) - (-6x-5)$$

$$12x + 7$$

$$12(3) + 7$$

$$36 + 7$$

$$= \boxed{43}$$

d) $(x^3 - 3x^2 + 2x) - (2x^3 + x^2 + 2x)$

$$(x^3 - 3x^2 + 2x) - (2x^3 + x^2 + 2x)$$

$$-x^3 - 4x^2$$

$$-(3)^3 - 4(3)$$

$$-27 - 4(9)$$

$$-27 - 36$$

$$= \boxed{-63}$$

2. Evaluate each polynomial for $x = 2$ and $y = -1$.

a) $(4x - 2y) + (3x - 6y)$

$$\begin{aligned} & 7x - 8y \\ & 7(2) - 8(-1) \\ & 14 + 8 \\ & = \boxed{22} \end{aligned}$$

b) $(2x^2 + 3y - 1) + (x^2 - 4y - 5)$

$$\begin{aligned} & 3x^2 - y - 6 \\ & 3(2)^2 - (-1) - 6 \\ & 3(4) + 1 - 6 \\ & 12 + 1 - 6 \\ & = \boxed{7} \end{aligned}$$

c) $(2x - 5y) + (2x - 3y)$

$$\begin{aligned} & 2x - 5y + 2x - 3y \\ & 4x - 8y \\ & 4(2) - 8(-1) \\ & 8 + 8 \\ & = \boxed{16} \end{aligned}$$

d) $(3x^2 - y) - (6x^2 - 7y)$

$$\begin{aligned} & 3x^2 - y - 6x^2 + 7y \\ & -3x^2 + 6y \\ & -3(2)^2 + 6(-1) \\ & -3(4) + 6(-1) \\ & -12 - 6 \\ & = \boxed{-18} \end{aligned}$$

e) $(3x^2 - 5xy + 2) - (2x^2 - xy - 4)$

$$\begin{aligned} & 3x^2 - 5xy + 2 - 2x^2 + xy + 4 \\ & x^2 - 4xy + 6 \\ & (2)^2 - 4(2)(-1) + 6 \\ & 4 - 4(2)(-1) + 6 \\ & 4 + 8 + 6 \\ & = \boxed{18} \end{aligned}$$

Assignment: Adding & Subtracting Polynomials Review Part 2 Assignment

Name: _____

Adding & Subtracting Polynomials Review Part 2 Assignment

1. Evaluate the following if $x = 2$.

a) $4x + 2 - 5x - 5$

b) $x + 3 - 5x - 2 + 3x + 1$

c) $3 - 4x + x^2 - 2x - 1 + x^2$

d) $2x^2 - 5x - 7 - x^2 + 2x + 2$

e) $x^3 + 2x^2 - 3x + 2x^3 - x + 2x^2$

f) $3x^3 - 2x^2 + x - 5 - x^3 + 2x^2 - 3x + 4$

g) $(3x + 4) - (2x + 6) + (x - 1)$

h) $(x^2 - 4x + 5) + (2x^2 - 5x - 2)$

2. Evaluate the following if $x = 3$ and $y = 2$.

a) $2x - 5y - 4x + 2y$

b) $-2x^2 - 3y^2 + 3x^2 + 4y^2$

c) $(3x + 2y) + (2x - 4y)$

d) $(4x - 3y) - (-2x + y)$

e) $(x^2 - 2x + y) + (2y - x - 2x^2)$

f) $(2x^2 - 4y^2 + 2) - (6 - 4y^2 - x^2)$

g) $(3x^2 - 2y^2) - (3 + 2x^2) + (y^2 - 2)$

h) $(3x - 2y + 3) - (4y - 1 + 5x) - (x - 3 + 2y)$

Answers