

Homework 1.1 Introduction to Polynomials

Identify the correct name of the polynomial based upon its degree and number of terms.

1. $4x^4 - 3x + 1$

2. $8x^2$

3. $x - 6$

Add, subtract, or multiply the following polynomials.

4. $(5x^2 - 4x + 7) + (8x^2 - 3x - 9)$

5. $(3x^2 - 3x - 5) - (2x^2 + x - 6)$

6. $(4x^2 + 3x - 10) - (-4x^2 + 2x + 8)$

7. $5x^3(4x^4 - 3x + 1)$

8. $(x + 4)(x - 6)$

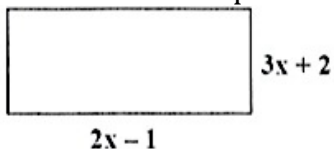
9. $(x + 9)(x - 9)$

10. $(3x + 1)(2x - 5)$

11. $(2x + 5)^2$

Application Problem:

12. Write the simplified expression for the **perimeter** and **area** of the following rectangle.



Find Perimeter:

Find Area:

Identify the correct name of the polynomial based upon its degree and number of terms.

1. $4x^4 - 3x + 1$

Quartic Trinomial

2. $8x^2$

Quadratic Monomial

3. $x - 6$

Linear Binomial

Add, subtract, or multiply the following polynomials.

4. $(5x^2 - 4x + 7) + (8x^2 - 3x - 9)$

$$= 13x^2 - 7x - 2$$

5. $(3x^2 - 3x - 5) - (2x^2 + x - 6)$

$$= x^2 - 4x + 1$$

6. $(4x^2 + 3x - 10) - (-4x^2 + 2x + 8)$

$$= 8x^2 + x - 18$$

7. $5x^3(4x^4 - 3x + 1)$

$$= 20x^7 - 15x^4 + 5x^3$$

8. $(x + 4)(x - 6)$

$$= x^2 - 2x - 24$$

9. $(x + 9)(x - 9)$

$$= x^2 - 81$$

10. $(3x + 1)(2x - 5)$

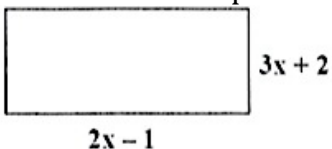
$$= 6x^2 - 13x - 5$$

11. $(2x + 5)^2$

$$= 4x^2 + 20x + 25$$

Application Problem:

12. Write the simplified expression for the **perimeter** and **area** of the following rectangle.



Find Perimeter:

$$= 10x + 2$$

Find Area:

$$= 6x^2 + x - 2$$