

## Get Ready

### Classify Polynomials

1. Classify each polynomial by the number of terms.

- a)  $-2y$
- b)  $x^2 + 3x + 2$
- c)  $6x^2y + 2xy + 4$
- d)  $x^2 + y^2$
- e)  $3x^2 + 2x + y - 4$

2. State the degree of each polynomial.

- a)  $x^2 + 3x - 1$
- b)  $x + 2y + 4z$
- c)  $6 + 2y^3 + xy$
- d)  $7a^3b^2 + 6a^2b^2 - 7ab$

### Add and Subtract Polynomials

3. Simplify.

- a)  $(3x + 7) + (3x - 6)$
- b)  $(2a - b) + (6a - 4b)$
- c)  $(3x^2 + 2x - 4) - (2x^2 - 5x + 1)$
- d)  $(9y^3 - 7y^2 + 4) - (3y^3 + 2y^2 - 1)$

4. Simplify.

- a)  $(6x^2 + 2xy - 3y^2) + (8x^2 - 4xy - 2y^2)$
- b)  $(8ab^2 + 8a - b^2) - (9ab^2 - 7a + b^2)$
- c)  $(6x - 8) - (4x + 7) + (6x - 2)$
- d)  $(6a^2 + b) - (2b - 3a^2) - (11b^2 + 9a^2 + 2)$

### The Product of a Monomial and a Polynomial

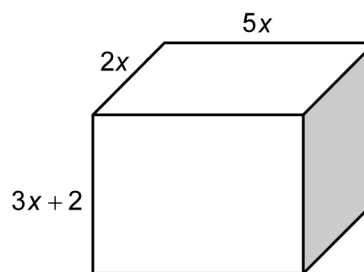
5. Expand using the distributive property.

- a)  $2x(x + y)$
- b)  $-8(6a^2 - 4a)$
- c)  $-6(a + 7)$
- d)  $2(3x^2 + 2x + 4)$

6. Expand using the distributive property.

- a)  $6m(2m - 4)$
- b)  $-8xy(2x - y)$
- c)  $6a^2(-3a + 4ab)$
- d)  $-2a(b^2 - 6ab + 7)$

7. A rectangular prism has the dimensions shown.



- a) Find a simplified expression for the volume.
- b) Find a simplified expression for the surface area.

### Factors

8. Write all of the factors of each number.

- a) 6
- b) 34
- c) 17
- d) 44

9. Write each number as the product of prime factors.

- a) 12
- b) 9
- c) 40
- d) 55