

6-1 Operations with Polynomials

Vocabulary:

Monomial

Binomial

Trinomial

Polynomial

Like Terms

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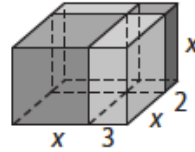
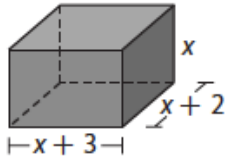
The data from the U.S. Census Bureau for 2005–2009 shows that the number of male students enrolled in high school in the United States can be modeled by the function $M(x) = -10.4x^3 + 74.2x^2 - 3.4x + 8320.2$, where x is the number of years after 2005 and $M(x)$ is the number of male students in thousands. The number of female students enrolled in high school in the United States can be modeled by the function $F(x) = -13.8x^3 + 55.3x^2 + 141x + 7880$, where x is the number of years after 2005 and $F(x)$ is the number of female students in thousands. Estimate the total number of students enrolled in high school in the United States in 2009.

In the equation $T(x) = M(x) + F(x)$, $T(x)$ is the total number of students in thousands.

$$V = \text{length} \times \text{width} \times \text{height}$$

$$= (x+3)(x+2)x$$

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Identify the volume of:

 V_1 V_3 V_2 V_4

Multiplying Polynomials pg. 328

$$5x \cdot 6x^3 = 30x^{1+3}$$

$$= 30x^4$$

$$-2x^2y^4z \cdot 5y^2z = -10x^2y^{4+2}z^{1+1}$$

$$= -10x^2y^6z^2$$

$$(2+3x)(1+x) = 2(1+x) + 3x(x+1)$$

$$= 2(1) + 2(x) + 3x(x) + 3x(1)$$

$$= 2 + 2x + 3x^{1+1} + 3x$$

$$= 2 + 5x + 3x^2$$

Multiply the following polynomials pg. 329

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

$$(x - 6)(3 - 8x - 4x^2)$$

Multiplying with a table

$$(x^2 + 3x - 5)(x^2 - x + 1)$$

	x^2	$-x$	1
x^2			
$+3x$			
-5			