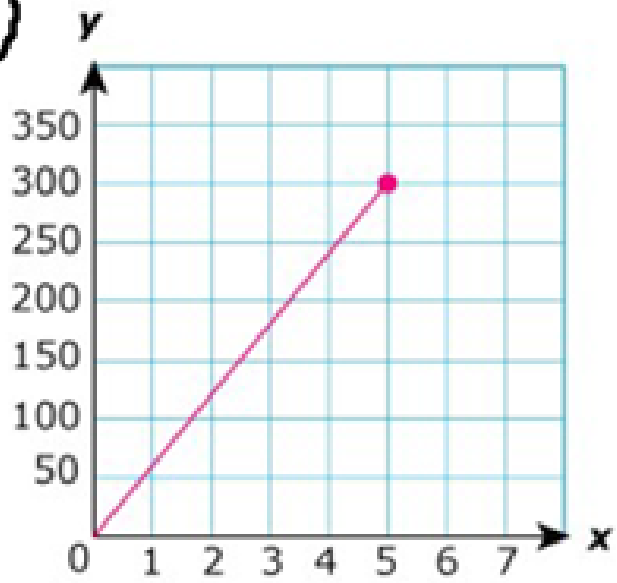
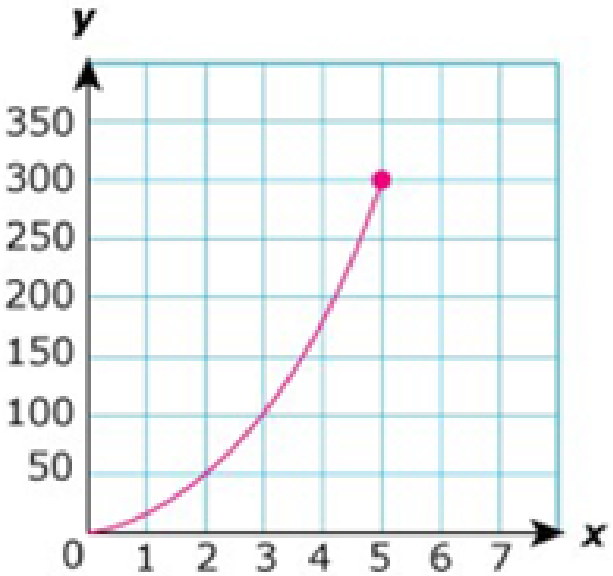
Mary drove 300 miles at a constant rate for 5 hours. Which graph represents the distance she drove with respect to time?

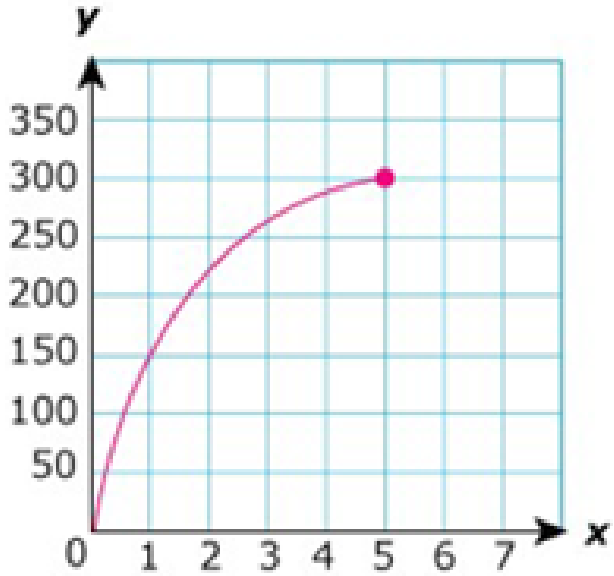
A



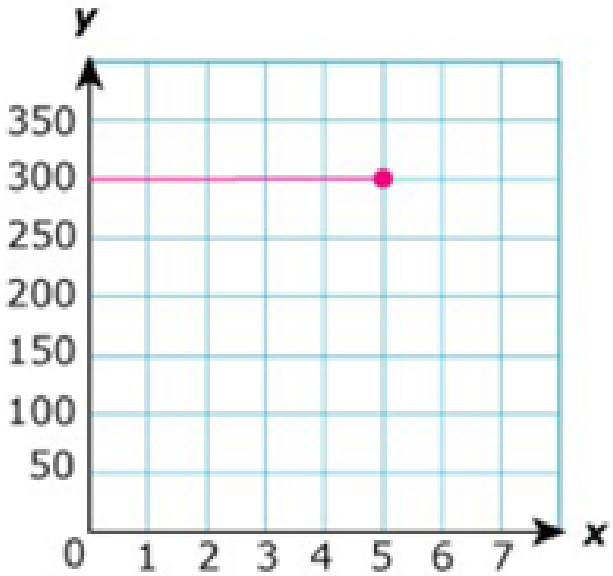

B.




C.

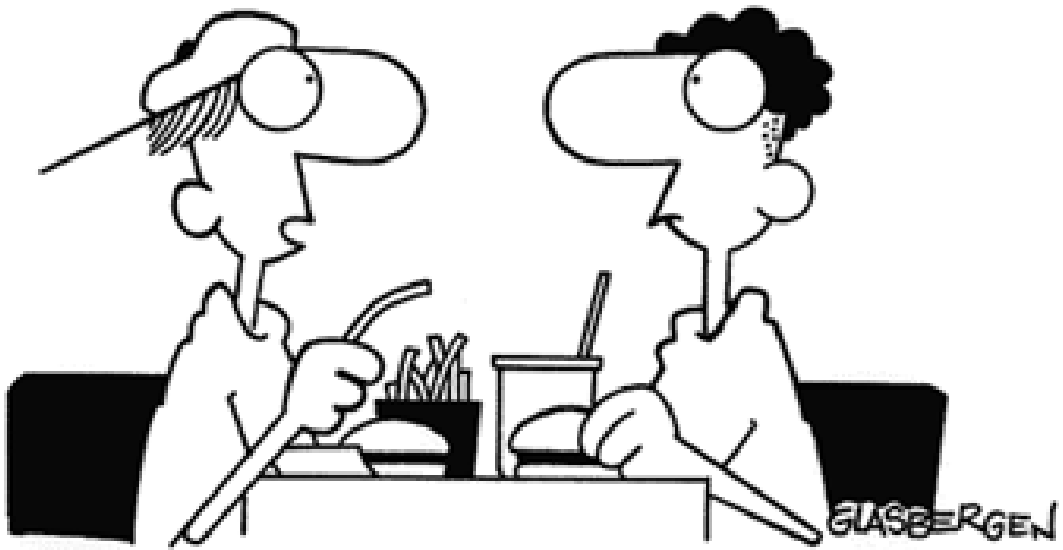



D.




Warm Up

# Adding and Subtracting Polynomials




**"I forgot to make a back-up copy of my brain, so everything I learned last semester was lost."**

# Common Core State Standards Goals

**You will add and subtract polynomials.**

**You will simplify results of operations with polynomials.**

# Remember:

$2 + 6 = 8$

$3x + 5x = 8x$ (not $8x^2$)!

$3x\,(5x) = 15x^2$

$2x + 7 = 2x+7$

Example 1: Work in groups to try to figure out the rules when simplifying the polynomial using the answers provided.

**A.** $(2x^2 + 5x - 7) + (3 - 4x^2 + 6x)$

answer: $-2x^2 + 11x - 4$

**B.** $(3y + y^3 - 5) + (4y^2 - 4y + 2y^3 + 8)$

answer: $3y^3 + 4y^2 - y + 3$

Now try these without the answers.

**C.** $(5x^2 - 3x + 4) + (6x - 3x^2 - 3)$

$2x^2 + 3x + 1$

**D.** $(y^4 - 3y + 7) + (2y^3 + 2y - 2y^4 - 11)$

$-y^4 + 2y^3 - y - 4$

Example 2: Work in groups to try to figure out the rules when simplifying the polynomial using the answers provided.

**A.** $(3 - 2x + 2x^2) - (4x + 5 + 3x^2)$

answer: $-x^2 - 6x + 8$

**B.** $(7p + 4p^3 - 8) - (3p^2 + 2 + 9p)$

answer: $4p^3 - 3p^2 + 16p - 10$

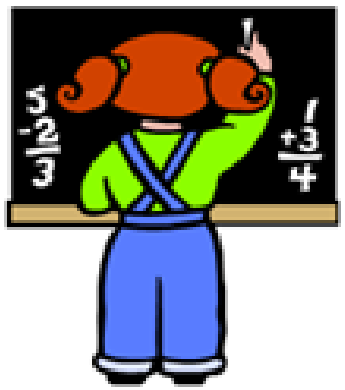
Now try these without the answers.

**C.** $(4x^3 - 3x^2 + 6x - 4) - (+2x^3 + x^2 + 2)$

$6x^3 - 4x^2 + 6x - 2$

**D.** $(8y - 10 + 5y^2) - (7 + y^3 + 12y)$

$y^3 + 5y^2 - 4y - 17$



# Adding Polynomials

add like terms

# Subtracting Polynomials

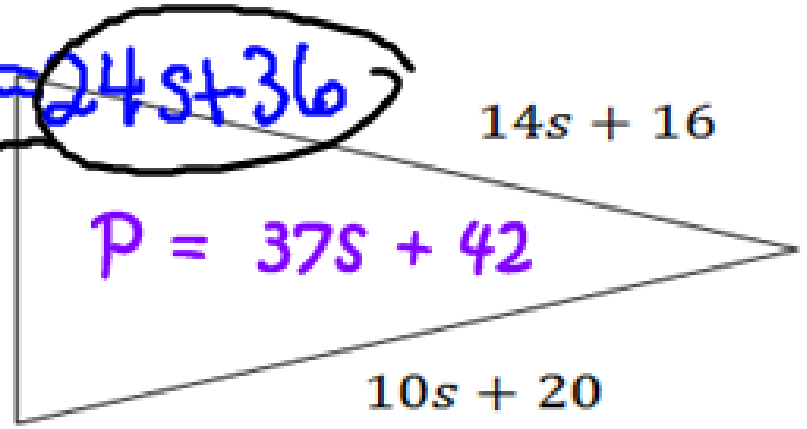
Distrubting negative sign to all terms
in parentheses
and add like terms

Write Highest degree to
Lowest degree

Example 3

The measure of the perimeter of the triangle shown is $37s + 42$.

$(14s+16)+(10s+20)=24s+36$




$37s+42$

$-(24s+36)$

$13s+6$

a) Find the polynomial that represents the third side of the triangle.

$13s+6$

b) Find the length of the third side of the triangle if $s = 3$ meters.

$13(3)+6=45$

Extra Examples

Example 4: Simplify the polynomial.

a) $(6y^2 + 8y^4 - 5y) - (9y^4 + 7y + 2y^2)$

$-y^4 + 4y^2 + 2y$

b) $(-5x^2 - 7x^3 + 4) + (-6x^2 - 3 + 4x^3)$

$-3x^3 - 11x^2 + 1$

## Example 4: Simplify the polynomial.

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

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

d) $(4x^2 + 5x - 9) + (2x - 5x^2 + 4)$

$-x^2 + 7x - 5$

# Common Core State Standards Goals

**You can add and subtract polynomials.**

**You can simplify results of operations with polynomials.**

# ClassWork - Puzzle