Name:

Date:

Lesson 2.1.5 Homework

**2-51.** Simplify the following expressions by combining like terms, if possible.

* 1. *x* + *x* − 3 + 4*x*2 + 2*x* – *x*
	2. 8*x*2 + 3*x* − 13*x*2 + 10*x*2 − 25*x* – *x*
	3. 4*x* + 3*y*
	4. 20 + 3*xy* − 3 + 4*y*2 + 10 − 2*y*2

**2-52.**When writing an expression for part (a) of problem 2-42, Ricardo wrote 2*x* – 3 – (*x* + 1), while Francine wrote –3 + 2*x* – (*x* + 1).  Francine states that their expressions are equivalent.  Is Francine’s conclusion true or false?  Use algebraic properties to justify your conclusion.



**2-53.** The two lines below represent the growing profits of Companies A and B.

* 1. If Company A started out with more profit than Company B, determine which line represents A and which represents B.  Label the lines appropriately.
	2. In how many years will both companies have the same profit?
	3. Approximately what will that profit be?
	4. Which company’s profits are growing more quickly?  How can you tell?

**2-54.**Find the value of *y*, given value of *x*.

* 1. *y* = 2 + 4.3*x*  when *x* = −6
	2. *y* = (*x* − 3)2  when *x* = 9
	3. *y* = *x* − 2  when *x* = 3.5
	4. *y* = 5*x* − 4  when *x* = −2

**2-55**. When baking cupcakes for his class of 21 students, Sammy needed two eggs.  Now he wants to bake cupcakes for the upcoming science fair.  If he expects 336 people to attend the science fair, how many eggs will he need?