Name:

Date:

Lesson 3.2.4 Homework

* **3-102.** Copy and complete each of the Diamond Problems below.  The pattern used in the Diamond Problems is shown at right.



* **3-103.**Joe is downloading songs from the Internet.  He can download them at a rate of 8 songs every 10 minutes.  Jasmine, who is also downloading songs, can download at a rate of 12 songs every 15 minutes.  Who is downloading songs faster?  What is the unit rate (songs per minute) for each person?

* **3-104.** For the following equations, simplify and solve for the variable.  Show all work and check your solution, if possible.
	1. −2 + x = −x + 2
	2. −(x − 1) = −4x – 2
	3. 2 + 3x = 3x + 2
	4. −(−x + 6) = −3x
*

**3-105.** Use your pattern-finding skills to copy and complete the table below.



* 1. Explain the pattern you found in your table.  How are  x  and  y  related?
	2. Write the rule you described in part (a) with algebraic symbols.
	3. Use the points in your table to graph this rule on graph paper.  Describe the resulting shape.

**3-106.** Translate each algebraic expression into words.

* 1. 5x – 3
	2. 2(x + y)
	3. 3 − (x + 5)