Name _____ Core _____ Date _____

Practice Problems # 13

5-5. A tile pattern has 5 tiles in Figure 0 and adds 7 tiles in each new figure. Write the equation of the line that represents the growth of this pattern.

5-6. Solve each equation below for the indicated variable, if possible. This means to isolate the variable indicated to solve for. Show all steps.

a. Solve for x: $2x + 22 = 12$

b. Solve for y: $2x - y = 3$

c. Solve for x: $2x + 15 = 2x - 15$

c. Solve for y: $6x + 2y = 10$

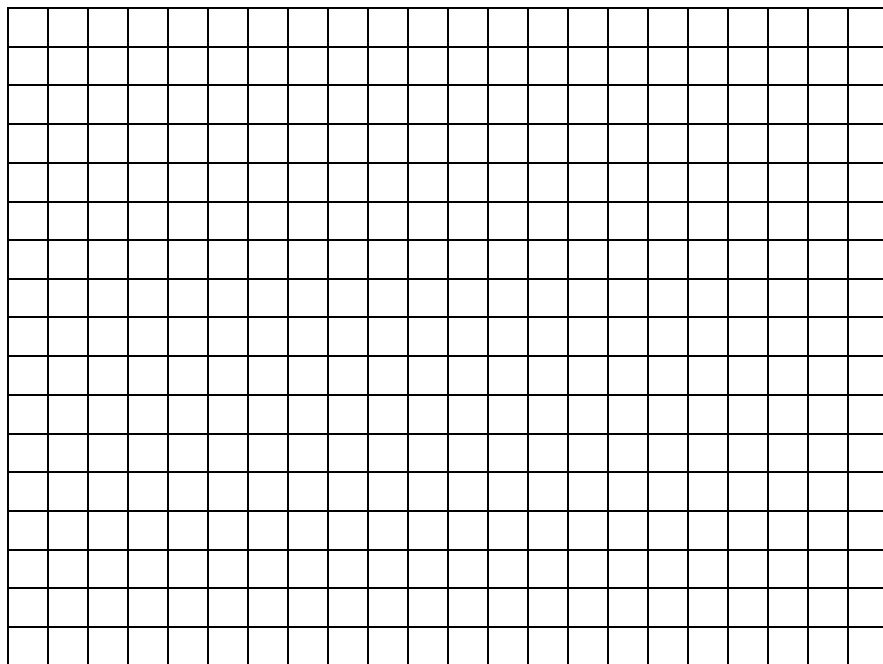**5-7.** Solve each of the following equations for x. Then check each solution.

a. $\frac{x}{16} = \frac{7}{10}$

b. $\frac{6}{15} = \frac{3}{x}$

c. $\frac{2x}{5} = \frac{12}{8}$

d. $-8 = \frac{2}{x}$

5-8. Graph the lines $y = -4x + 3$ and $y = x - 7$ on the same set of axes. Then find their point of intersection (where they cross each other). Make sure your graph is **complete.**

Point of intersection: (,   )

5-18. Solve each equation below.

a. $\frac{x}{2} + \frac{x}{6} = 7$

b. $\frac{x}{9} + \frac{2x}{2} = \frac{1}{3}$

5-19. Fisher thinks that any two lines must have a point of intersection. Is he correct? If so, explain how you know. If not, produce a **counterexample** and explain your reasoning. (In this case, a counterexample would be an example of two lines that do not cross each other)

5-22. Solve each of the following equations. Be sure to show your work carefully and check your answers.

a. $2(3x - 4) = 22$

b. $6(2x - 5) = -(x + 4)$

b. $2 - (y + 2) = 3y$

c. $3 + 4(x + 1) = 159$

5-27. To ride to school, Elaine takes 7 minutes to ride 18 blocks.

a. What is her unit rate (blocks per minute)?

b. Assuming she rides at a constant speed, how long should it take her to go 50 blocks?

5-28. Gale and Leslie are riding in a friendly 60-mile bike race that started at noon. The graph at right represents their progress so far.

a. What does the intersection of the two lines represent?

b. At approximately what time did Leslie pass Gale?

Distance in Miles

Leslie Gale

noon 1:00 2:00 3:00 4:00 5:00 6:00 7:00

Time of Day
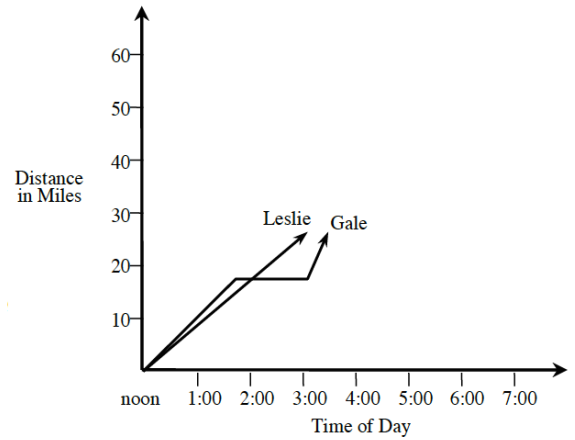
5-31. Solve each of the following equations for the indicated variable. Solving means isolating the variable. Show all of your steps.

a. $y = 2x - 5$ for x

b. $p = -3w + 9$ for w

c. $2m - 6 = 4n + 4$ for m

d. $3x - y = -2y$ for y