A2 Lesson 2.2 Homework

Name _____

1. Does the given system have $0, 1$, or infinite solutions? Explain your choice.
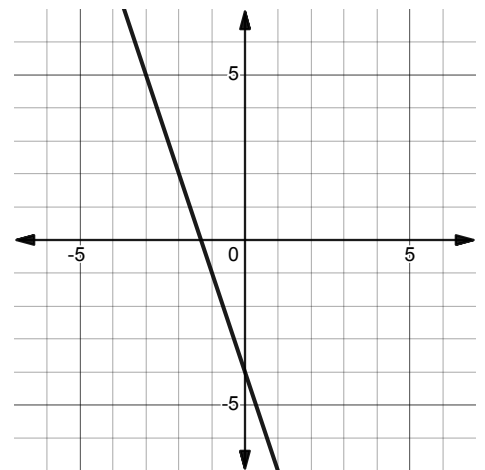
$$y = \frac{3}{2}x - 7$$

$$y = \frac{3}{2}x + 2$$

2. The graph of a linear equation is shown. The equation of the given graph will be one of the equations used to write a system of equations.

   a. Graph a second linear equation to create a system of equations with infinite solutions.

   b. Write an equation for the line added.

3. Write a linear equation to create a system of equations that has no solutions with the given equation.

$$y = \frac{5}{4}x - 7$$

4. Consider the system of equations.

   $$3y = 12$$
   $$2x + 3y = 22$$

   a. Solve the system.

   b. Describe what the graph of the system will look like.

Math Medic

5. For what value of w will the system shown have infinitely many solutions?

$$x - 4y = 5$$
$$4x - 16y = w$$

6. Solve the system for (x, y).

$$5x - 3y = 14$$
$$y = x + 8$$

7. A system of equations consists of two lines, Line j and Line k. The system has no solutions. The equation of Line j is $y = 4.5x + 4$. Line k goes through the point $(0, -19)$. Find the equation of line k.

8. Jaxon and Cherise each attempt to solve the system shown. Each of their solutions is given.

$$y = \frac{1}{4}x - \frac{1}{2}$$

$$2x - 8y = 4$$

Jaxon: The system has no solutions.

Cherise: The system has infinite solutions.

Who is correct? Explain.

Math Medic

9. Raya buys 12 eggs and 2 heads of lettuce at the farmers market for $10.50. Ivy buys 6 eggs and 1 head of lettuce for $4.50. Were Raya and Ivy charged the same unit price for an egg and a head of lettuce? Explain why or why not.

10. Does the given system have $0, 1,$ or infinite solutions? Explain your choice.

$$6x - 18y = 24$$
$$x - 3y = 4$$