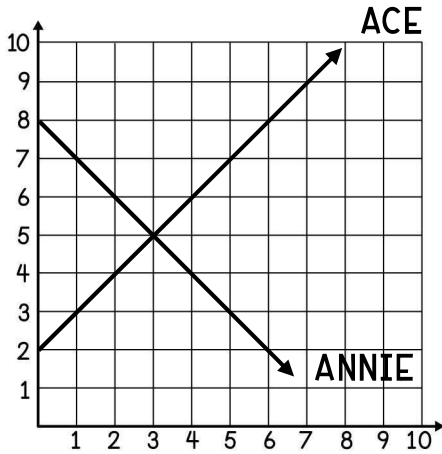Name _____

Date _____ Pd_____

INTRO TO SYSTEMS OF EQUATIONS

Ace and Annie graphed linear equations on the same grid as shown below. Use their graphs to answer a-d.

a. Write an equation to represent each person's line.

ACE:	ANNIE:

b. List the ordered pair where the lines intersect.

c. Is the point above a solution to Ace's equation? Give two ways you can tell.

d. Is the point from part b also a solution to Annie's equation? Give two ways you can tell.

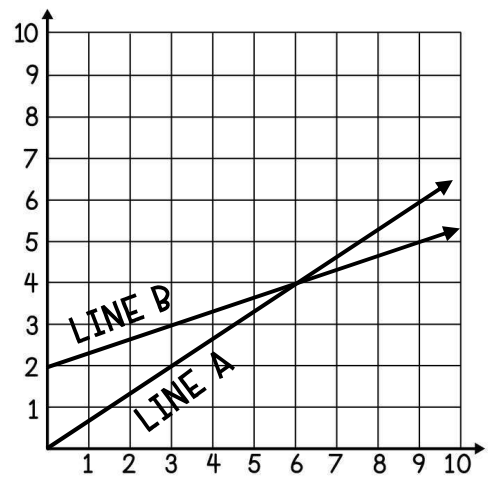| SYSTEM OF EQUATIONS	• A system of equations is a set of more than _____ equation with the same _____. • The point of intersection of two graphed equations is the _____ of the system of equations, or the ordered pair that makes both equations true.

1. Use the system of linear equations graphed below to answer a-d.

a. List the two linear equations graphed at the right.

   A:_____   B: _____

b. What is the solution to the system of equations? _____

c. Show work below to prove your answer is correct.

d. Record if each ordered pair below is a solution to equation A, B, both or neither.

   (3, 2): _____   (4, 6): _____   (3, 3): _____   (6, 4): _____

In 2-3, graph the system of equations to find the solution to the system. Then, use the check step to prove that the solution works in both equations. Show all work.

2. $y = -\frac{1}{2}x + 3$

   $y = 5$
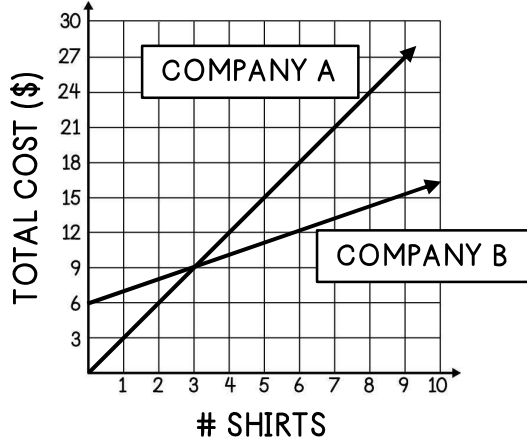
   Solution:

   _____

   CHECK:

3. $y = \frac{1}{3}x - 2$

   $y = -x + 2$

   Solution:

   _____

   CHECK:

For 4-5, use the graph to answer a–c.

4. The total cost of two t-shirt companies based on the number of shirts ordered is shown below.

COMPANY A

COMPANY B

TOTAL COST ($)

SHIRTS

a. Write an equation to represent each company.

b. How many shirts would need to be ordered for the cost to be the same at either company? What would the total cost be?

c. If Justin needs to order 5 shirts, which company would be the cheaper option?

5. The balance of two siblings' savings accounts based on the number of weeks is shown below.

TATE

TABITHA

ACCOUNT BALANCE ($)
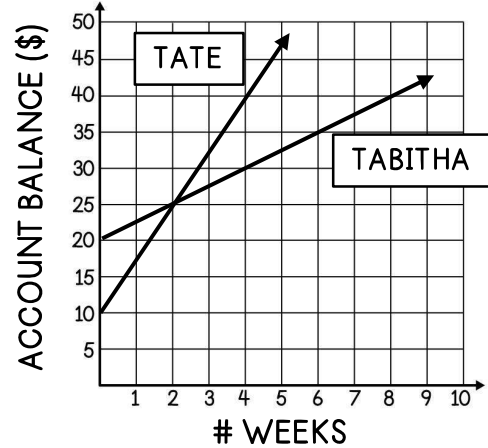
WEEKS

a. Describe the amount each sibling started with and the rate at which his or her account balance is changing.

b. After how many weeks will the siblings have the same amount, and what will the amount be?

c. Which sibling will have the highest balance after 5 weeks?

INTRO TO SYSTEMS OF EQUATIONS

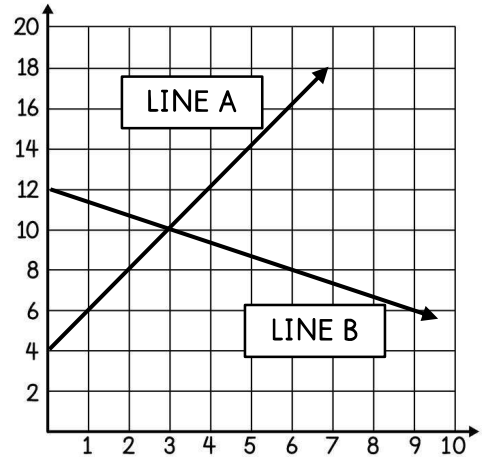Use the system of equations in A-C to answer the questions.

A   Use the graphed system of equations to answer 1-3.

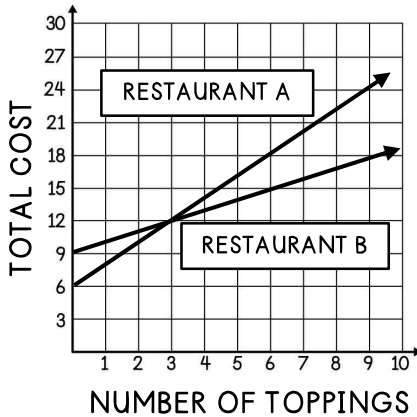1. Write the equation of each line in slope-intercept form.

   A: _____   B: _____

2. What is the solution to the system of equations? _____

3. Show work below to prove the solution is correct.

LINE A

LINE B

B   The graph shows the cost of a pizza at two restaurants based on the number of toppings ordered. Use the graph to answer 4-6.

RESTAURANT A

RESTAURANT B

TOTAL COST

NUMBER OF TOPPINGS

4. Write the equation of each line in slope-intercept form.

   A: _____   B: _____

5. What is the solution to the system of equations? _____

6. What does the solution mean in the context of the situation?

C   The graph compares the amount of money in two accounts based on the number of weeks each person has been saving. Use the graph to answer 7-8.

7. What is the solution to the system of equations? _____

8. Which statement is true?
   a. At 6 weeks, Lane and Landry will have the same amount of money.
   b. After 6 weeks, Lane will have more money than Landry.
   c. Lane saves at a rate more than three times that of Landry.
   d. All of the above.

ACCOUNT BALANCE ($)

LANDRY

LANE

WEEKS