

Name \_\_\_\_\_

Mrs. Roubos

Date \_\_\_\_\_

8R Period \_\_\_\_\_

### Systems Word Problems

1) Eve sells pretzels and juice at a pretzel stand. One morning she sells 14 pretzels and 8 juices and makes a total of \$58. In the afternoon she sells 22 pretzels and 16 juices for \$98. How much does Eve charge for one pretzel? How much does she charge for one juice?

2) A grocer bought 3 boxes of peaches and 5 boxes of pears for \$59. Another grocer bought 5 boxes of peaches and 2 boxes of pears from the same dealer for \$54. Find the cost of one box of peaches and 1 box of pears.

**3 EXAMPLE Solving a Real-World Problem by Graphing**

Keisha and her friends visit the concession stand at a football game. The stand charges \$2 for a hot dog and \$1 for a drink. The friends buy a total of 8 items for \$11. Tell how many hot dogs and how many drinks they bought.

- A** Let  $x$  represent the number of hot dogs they bought and  $y$  represent the number of drinks they bought.

Write an equation representing the **number of items they purchased**.

$$\begin{array}{rccccccc} \text{Number of hot dogs} & + & \text{Number of drinks} & = & \text{Total items} \\ & & & & \\ & + & & = & \end{array}$$

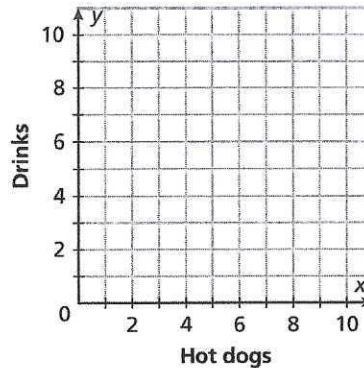
Write an equation representing the **money spent on the items**.

$$\begin{array}{rccccccc} \text{Cost of 1 hot dog times} & + & \text{Cost of 1 drink times} & = & \text{Total cost} \\ \text{number of hot dogs} & & \text{number of drinks} & & \\ & + & & = & \end{array}$$

- B** Write your equations in slope-intercept form.

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- C** Graph the solutions of both equations.



- D** Use the graph to identify the solution of the system of equations. Check your answer by substituting the ordered pair into both equations.

The point \_\_\_\_\_ is a solution of both equations.

- E** Interpret the solution in the original context.

Keisha and her friends bought \_\_\_\_\_ hot dog(s) and \_\_\_\_\_ drink(s).

**REFLECT**

- 3. Conjecture** Why do you think the graph is limited to the first quadrant?

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