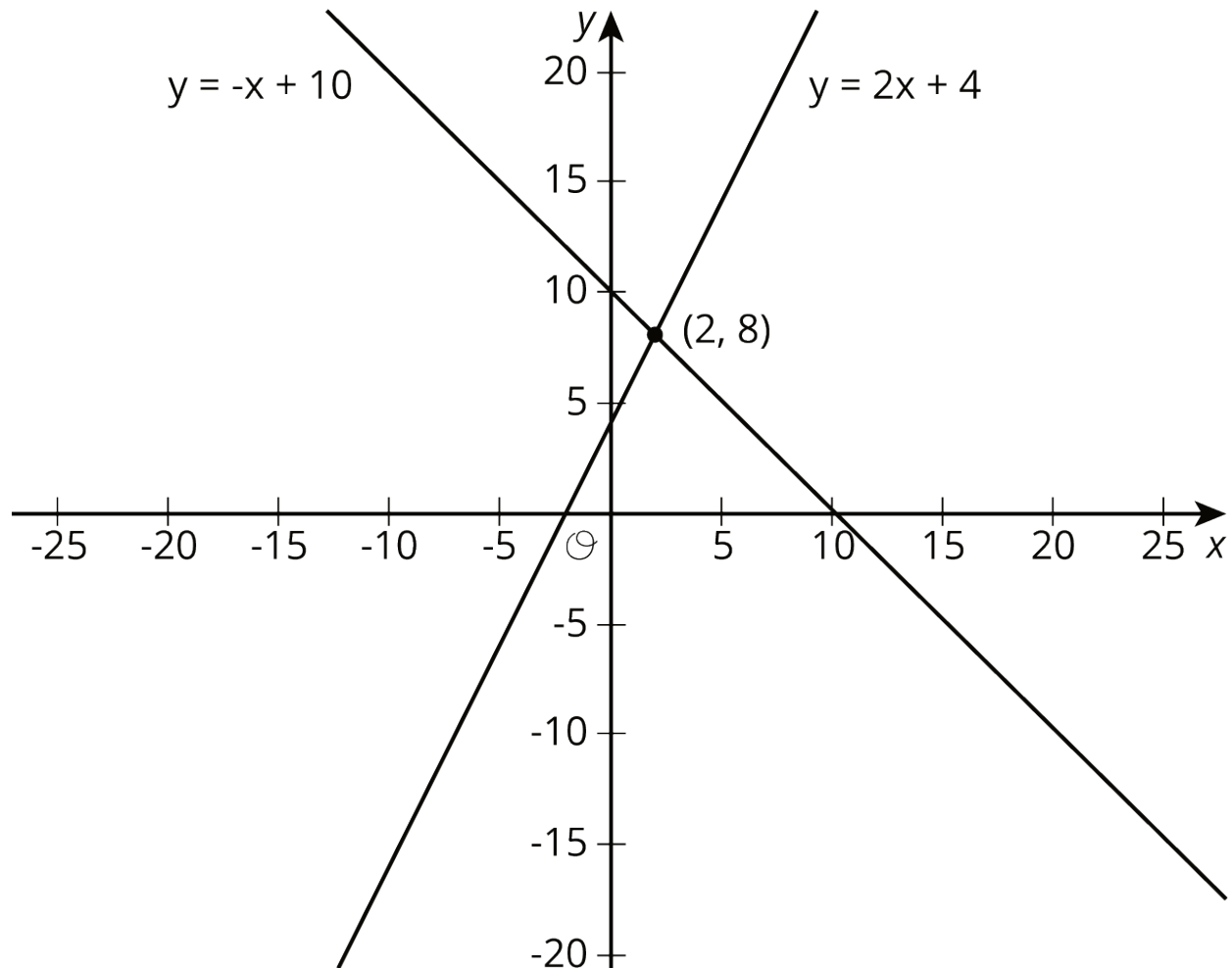


## Unit 4 Lesson 13: Solving Systems of Equations

### 1 True or False: Two Lines (Warm up)

#### Student Task Statement



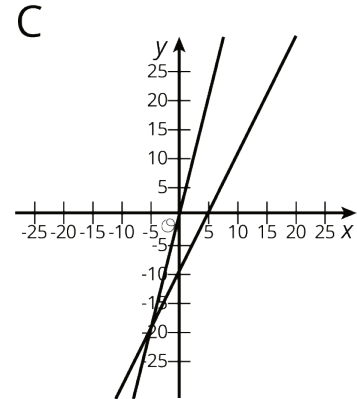
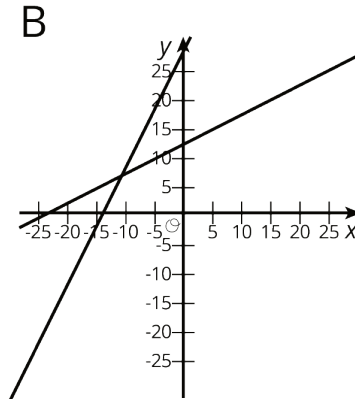
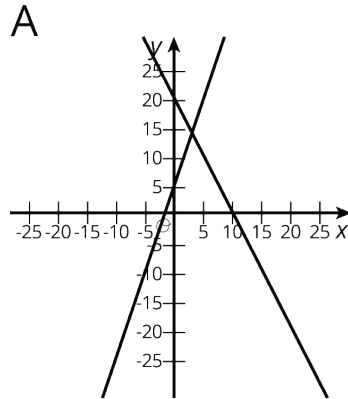
Use the lines to decide whether each statement is true or false. Be prepared to explain your reasoning using the lines.

1. A solution to  $8 = -x + 10$  is 2.
2. A solution to  $2 = 2x + 4$  is 8.
3. A solution to  $-x + 10 = 2x + 4$  is 8.
4. A solution to  $-x + 10 = 2x + 4$  is 2.
5. There are no values of  $x$  and  $y$  that make  $y = -x + 10$  and  $y = 2x + 4$  true at the same time.

## 2 Matching Graphs to Systems

### Student Task Statement

Here are three systems of equations graphed on a coordinate plane:



1. Match each figure to one of the systems of equations shown here.

a. 
$$\begin{cases} y = 3x + 5 \\ y = -2x + 20 \end{cases}$$

b. 
$$\begin{cases} y = 2x - 10 \\ y = 4x - 1 \end{cases}$$

c. 
$$\begin{cases} y = 0.5x + 12 \\ y = 2x + 27 \end{cases}$$

2. Find the solution to each system and check that your solution is reasonable based on the graph.

### **3 Different Types of Systems**

#### **Student Task Statement**

Your teacher will give you a page with some systems of equations.

1. Graph each system of equations carefully on the provided coordinate plane.
2. Describe what the graph of a system of equations looks like when it has . . .
  - a. 1 solution
  
  - b. 0 solutions
  
  - c. infinitely many solutions