## 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.
	1. $\left\{\begin{matrix}y=3x+5\\y=-2x+20\end{matrix}\right.$
	2. $\left\{\begin{matrix}y=2x−10\\y=4x−1\end{matrix}\right.$
	3. $\left\{\begin{matrix}y=0.5x+12\\y=2x+27\end{matrix}\right.$
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 . . .
	1. 1 solution
	2. 0 solutions
	3. infinitely many solutions



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