

Name: \_\_\_\_\_

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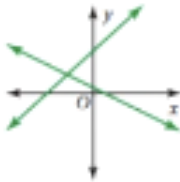
## 5.4 Solving Special Systems of Linear Equations

Essential Question: \_\_\_\_\_

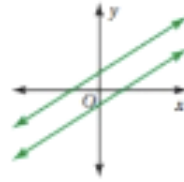
### Key Idea

#### Solutions of Systems of Linear Equations

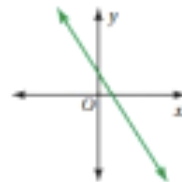
A system of linear equations can have *one solution*, *no solution*, or *infinitely many solutions*.



**One solution**  
The lines intersect.



**No solution**  
The lines are parallel.



**Infinitely many solutions**  
The lines are the same.

#### EXAMPLE 1 Solving a System: No Solution

Solve the system.

$$y = 3x + 1$$
$$y = 3x - 5$$

#### EXAMPLE 2 Solving a System: Infinitely Many Solutions



The perimeter of the rectangle is 36 units. The perimeter of the triangle is 108 units. Write and solve a system of linear equations to find the values of  $x$  and  $y$ .

