

# Math 9

## 4.4 – Linear Relations III

### Warm Up

The lines of the grid intersect to form the rectangle,  $DEFG$  .

The equations of the lines are:

$$y = \frac{1}{2}x - \frac{1}{2}; \quad y = -2x + 5; \quad y = -2x - 8; \quad x - 2y = -8$$

Determine the equations of the lines that form each side of the rectangle:

$DE$ :

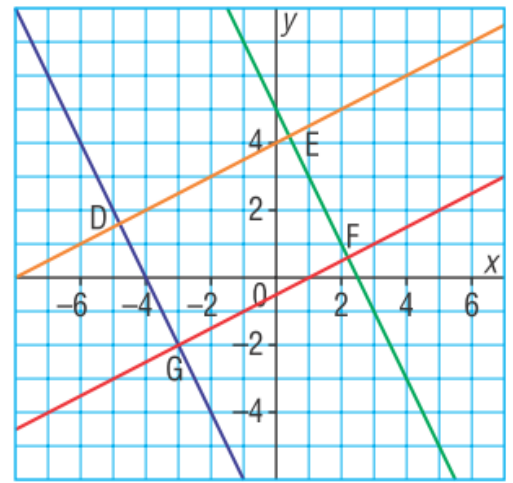
$EF$ :

$FG$ :

$DG$ :

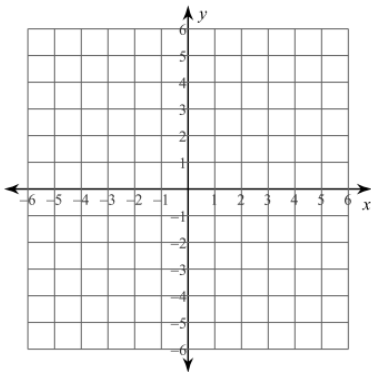
Name: \_\_\_\_\_

Date: \_\_\_\_\_

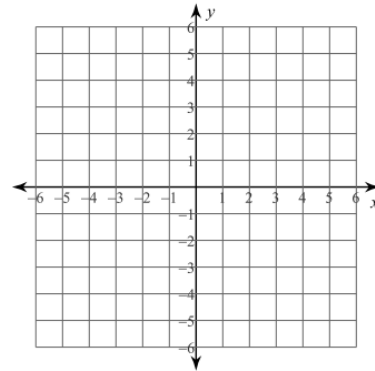


### Graphs & Equations of Two Special Linear Relations

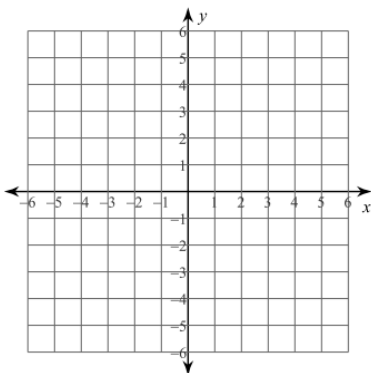
On the grid given below, plot all points that have a  $y$  - coordinate of 3.



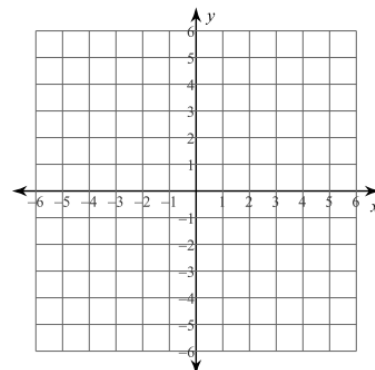
On the grid given below, plot all points that have a  $y$  - coordinate of  $-4$  .



On the grid given below, plot all points that have an  $x$  - coordinate of 3.



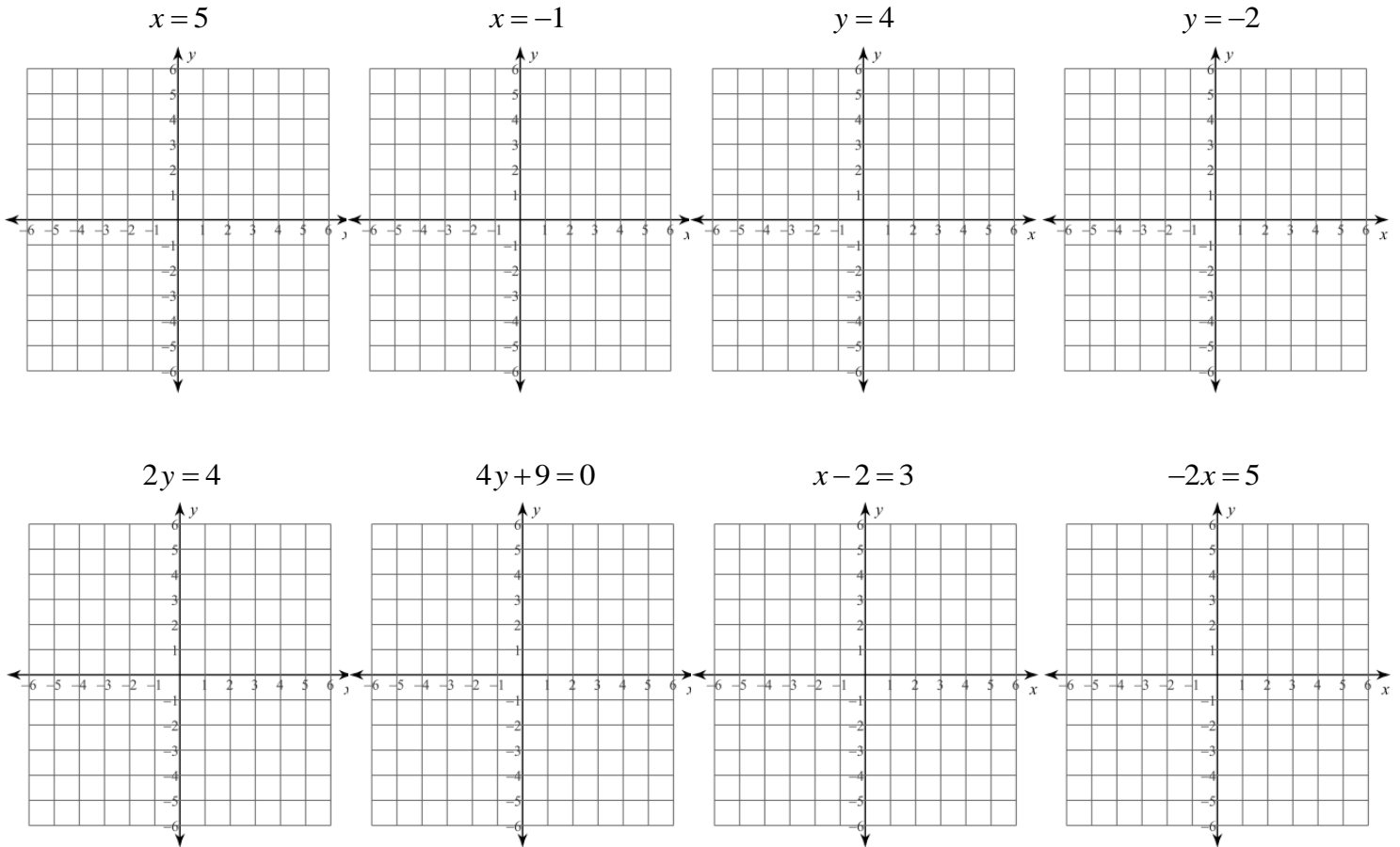
On the grid given below, plot all points that have an  $x$  - coordinate of  $-4$  .



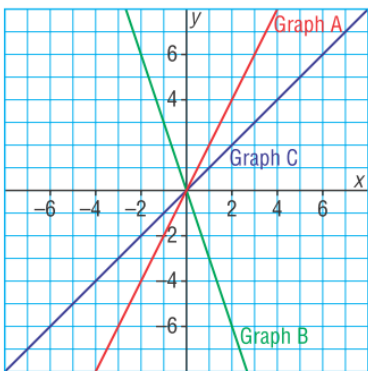
The graph of  $y = 3$  is a \_\_\_\_\_ line passing through all points with a \_\_\_\_\_ of 3.

The graph of  $x = 3$  is a \_\_\_\_\_ line passing through all points with a \_\_\_\_\_ of 3.

Sketch the graphs represented by the following Linear Equations:

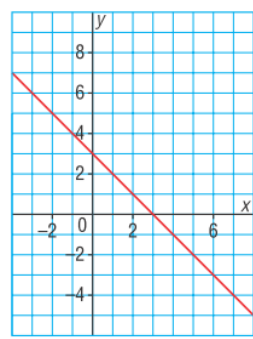


Match each graph on the grid with its equation. Explain your strategy.

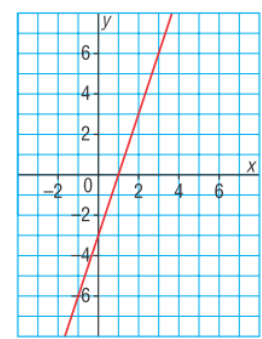


- $y = x$
- $y = 2x$
- $y = -3x$
- $y = 3x + 3$
- $x + y = 3$
- $y = 3x - 3$

Graph A



Graph B



Graph C

