

Remediation

Name _____

Unit 3 Objective 3

Section _____

Graph an equation in Standard Form.

Standard form of a linear equation will be $Ax + By = C$.

There are two ways to do problems like this.

Method 1:

One way is to find the x-intercept and the y-intercept and to connect the points to graph the line.

Example: $5x - 4y = -20$

To find the x-intercept, substitute 0 in for y and solve for x.

$$5x - 4(0) = -20$$

$$5x = -20$$

$$\frac{5x}{5} = \frac{-20}{5}$$

$$x = -4 \quad \text{x-intercept } (-4, 0)$$

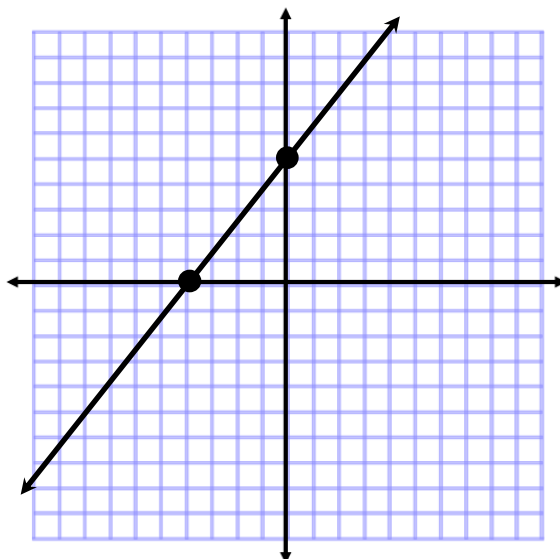
To find the y-intercept, substitute 0 in for x and solve for y.

$$5(0) - 4y = -20$$

$$-4y = -20$$

$$\frac{-4y}{-4} = \frac{-20}{-4}$$

$$y = 5 \quad \text{y-intercept } (0, 5)$$



Method 2:

The other way is to solve the equation for y and put it into Slope-Intercept form, as $y=mx+b$. Then the graphing of the equation will be done the same as Objective 2.

Example: $5x - 4y = -20$

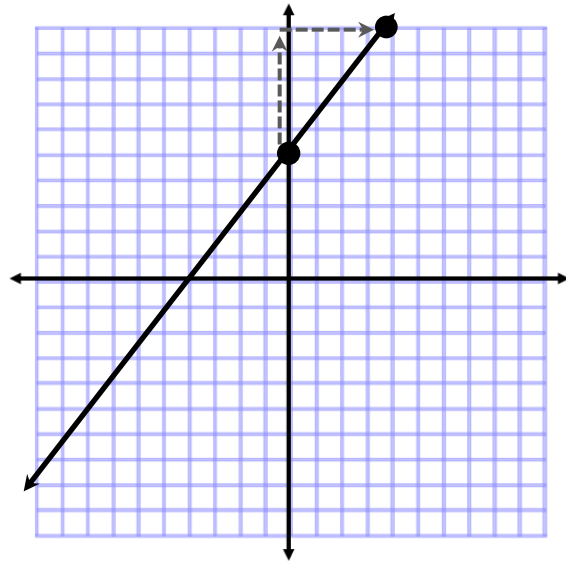
Solve for y .

$$\begin{aligned} 5x - 4y &= -20 \\ -5x &\quad -5x \\ -4y &= -20 \\ \frac{-4y}{-4} &= \frac{-5x}{-4} + \frac{-20}{-4} \end{aligned}$$

$$y = \frac{5}{4}x + 4$$

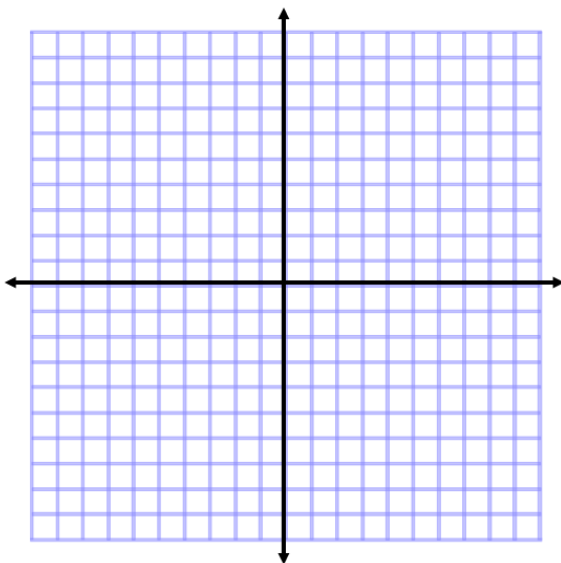
The slope is $\frac{5}{4}$ and the y -intercept is $(0,4)$.

Start at the point $(0,4)$ and rise 5 blocks from that point, then run 4 blocks to the right. Connect the points.

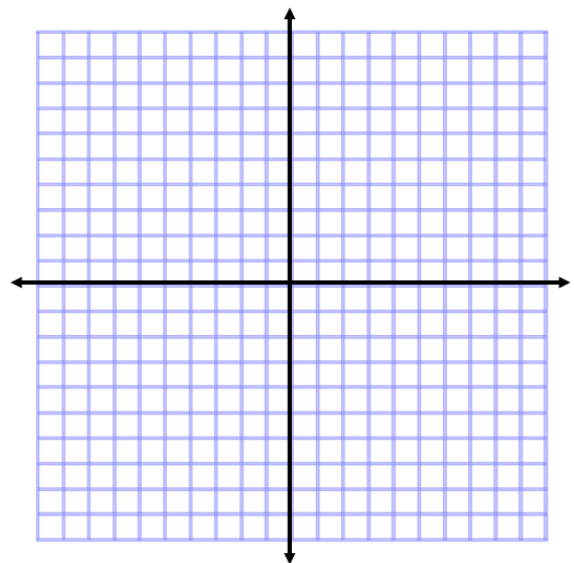


Practice: Graph each linear equation.

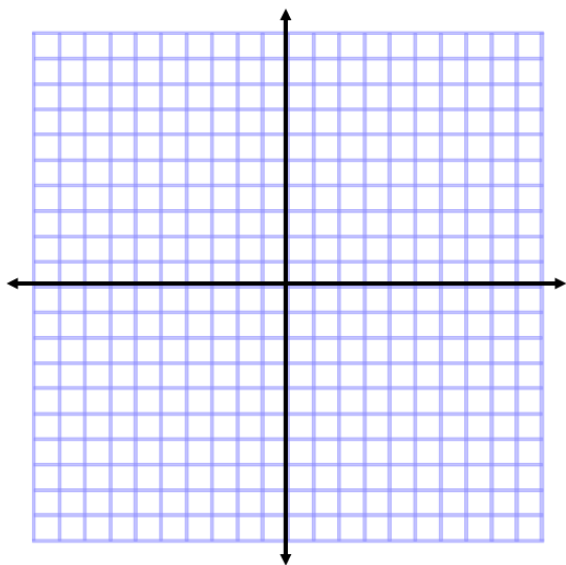
1. $3x + y = 6$



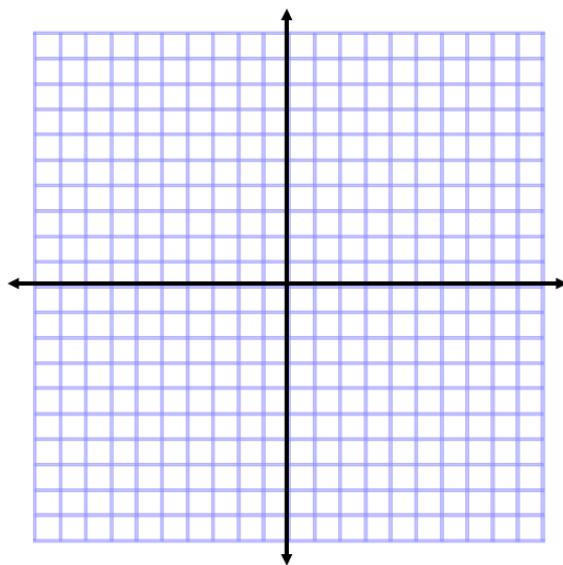
2. $5x - 2y = -10$



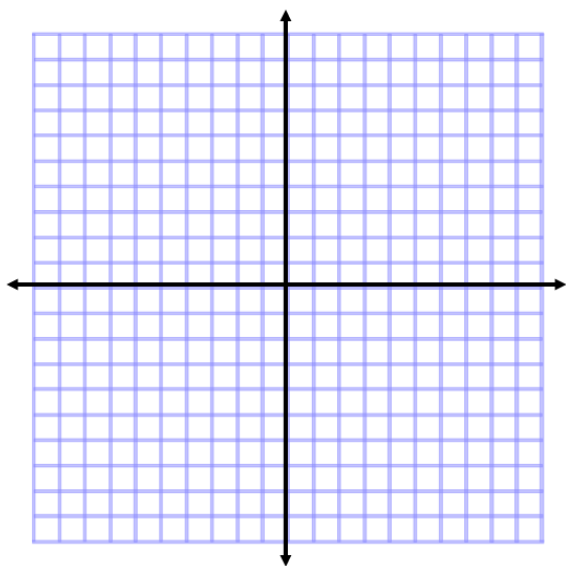
3. $2x - 8y = 4$



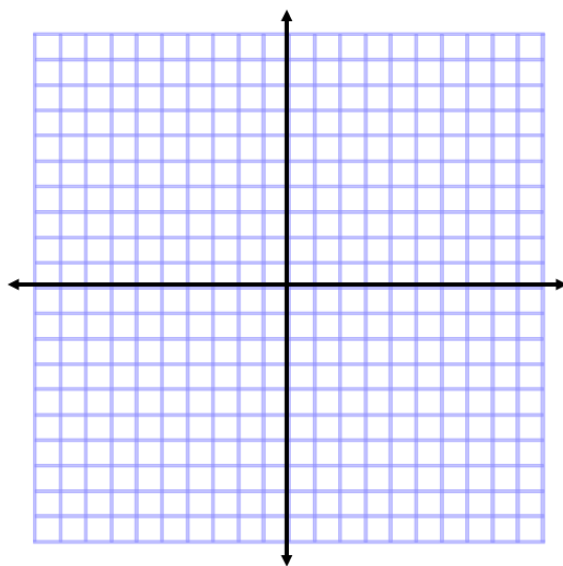
4. $9x + 6y = 12$



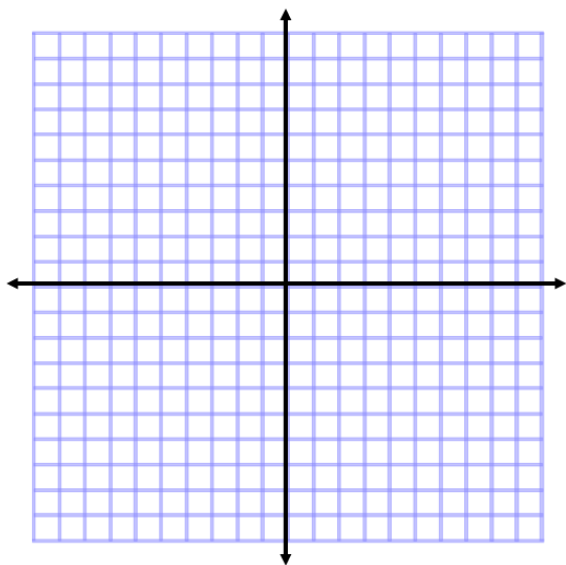
5. $x - 4y = -8$



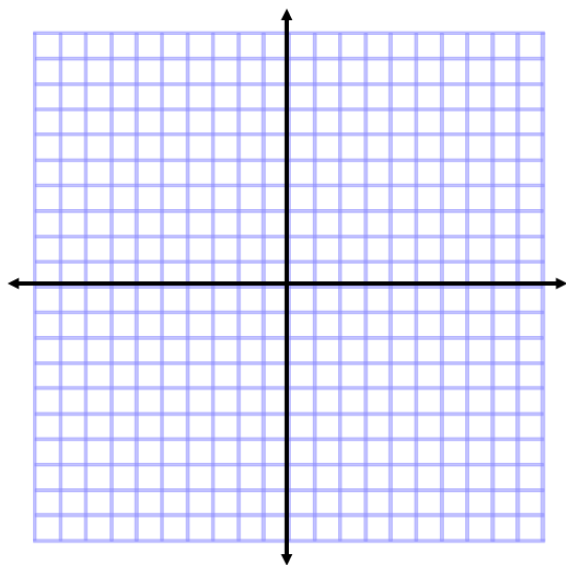
6. $x + y = 10$



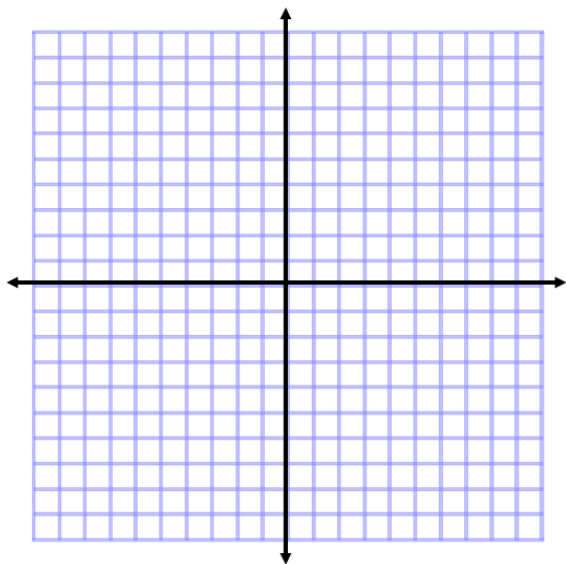
7. $7x - 2y = -10$



8. $2x + 3y = 9$



9. $6x + y = -6$



10. $4x - 5y = 20$

