

Warm Up:

Determine the equation of a line that is:

a) parallel to  $3x - 8y - 48 = 0$

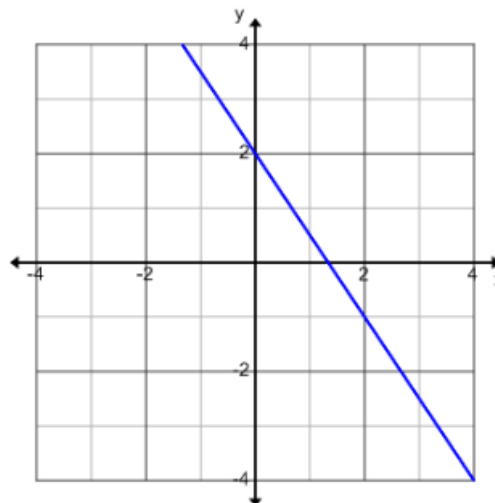
b) perpendicular to  $3x - 8y - 48 = 0$

U6D5

Finding Equation of a Line (Given the Slope and One Point)

**Recall:**

Finding the equation of a line from the graph.



\*Notice: the point (2, -1) is on the line.

**Example 1:** Determine the equation of a line passing through the point (4,5) with a slope of -2.

**Example 2:**

Determine the equation of a line that has a slope of  $\frac{5}{6}$  and passes through the point (10,-4).

**Example 3:** Find the equation of a line..

a) parallel to  $y = -\frac{1}{4}x - 6$ , passing through (3,1)

b) perpendicular to  $y = \frac{1}{3}x - 20$ , and passing through (3,-7).

c) parallel to the  $y$ -axis, passing through (-3,-6)

d) perpendicular to  $x = 7$ , passing through the origin.