Warm up

1. Determine the equation of a line with a y-intercept of 5 and a slope of 2/3? **(Slope Intercept Form)**

2. Determine the equation of a line with a slope of 4 and passing through the point (-3, 5). **(General Form)**

3. Determine the equation of a vertical line passing through the point (-3, 5). **(Slope Point Form)**

4. Determine the equation of a line passing through the points (5, -2) and (2, 8). **(General Form)**

1. Determine the equation of a line with a y-intercept of 5 and a slope of 2/3? **(Slope Intercept Form)**

$$b = 5 \qquad m = \frac{2}{3}$$

$$y = \boxed{m}x + \boxed{b}$$

$$y = \frac{2}{3}x + 5$$

2. Determine the equation of a line with a slope of 4 and passing through the point (-3, 5).
   (General Form)

$$m = 4 \qquad \text{Point } (-\overset{x_1}{3}, \overset{y_1}{5})$$

$$y - y_1 = m(x - x_1)$$

$$y - 5 = 4(x + 3)$$

$$y - 5 = 4x + 12$$

$$0 = 4x - y + 12 + 5$$

$$0 = 4x - y + 17$$

$$4x - y + 17 = 0$$

3. Determine the equation of a vertical line passing through the point (-3, 5). **(Slope Point Form)**

$$m = \frac{1}{0} \qquad (-3, 5) \overset{x_1 \ y_1}{}$$

$$y - y_1 = m(x - x_1)$$

$$y - 5 = \frac{1}{0}(x + 3)$$

4. Determine the equation of a line passing through the points (5, -2) and (2, 8). **(General Form)**

$$\left(\overset{x_1\ y_1}{5, -2}\right) \left(\overset{x_2\ y_2}{2, 8}\right)$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{8 + 2}{2 - 5}$$

$$\boxed{m = \frac{10}{-3}}$$

$$\text{Slope} = \frac{-10}{3} \qquad \text{Point } \left(\overset{x_1\ y_1}{5, -2}\right)$$

$$y - y_1 = m(x - x_1)$$

$$\overset{+3}{y} + \overset{+3}{2} = -\frac{10}{3}^{\times 3}(x - 5)$$

$$3y + 6 = -10(x - 5)$$

$$3y + 6 = \boxed{-10x} \boxed{+ 50}$$

$$10x + 3y + 6 - 50 = 0$$

$$10x + 3y - 44 = 0$$

Attachments

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