Equation of a Line (From 2 points)

1. Find the equation of the line that passes through the points (-3, 1) and (2, 2).

2. Write the equation for the line that goes through point $(-10, 8)$ with slope $m = 6$.

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1. Find the equation of the line that passes through the points (-3, 1) and (2, 2).

Using the points $(-3, 1)$ and $(2, 2)$, the slope of the line is

$$m = \frac{1-2}{-3-2}$$

$$= \frac{-1}{-5}$$

$$= \frac{1}{5}.$$

$$2 = \frac{1}{5}(2) + b$$

$$2 = \frac{2}{5} + b$$

$$2 - \frac{2}{5} = \frac{2}{5} - \frac{2}{5} + b$$

$$\frac{8}{5} = b$$

The equation of the line is $y = \frac{1}{5}x + \frac{8}{5}$.

2. Write the equation for the line that goes through point $(-10, 8)$ with slope $m = 6$.

$$8 = 6(-10) + b$$

$$8 = -60 + b$$

$$68 = b$$

The equation of the line is $y = 6x + 68$.