

Equation of a Line (From 2 points)

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

2. Find the equation of the line that passes through the points $(-6, 2)$ and $(-5, 5)$.

Go to [onlinemathlearning.com](https://www.onlinemathlearning.com) for more free math resources

Equation of a Line (From 2 points)

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

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

$$\begin{aligned}m &= \frac{2 - (-2)}{-3 - 2} \\ &= \frac{4}{-5} \\ &= -\frac{4}{5}.\end{aligned}$$

$$2 = \left(-\frac{4}{5}\right)(-3) + b$$

$$2 = \frac{12}{5} + b$$

$$2 - \frac{12}{5} = \frac{12}{5} - \frac{12}{5} + b$$

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

The equation of the line is $y = -\frac{4}{5}x - \frac{2}{5}$.

2. Find the equation of the line that passes through the points $(-6, 2)$ and $(-5, 5)$.

Using the points $(-6, 2)$ and $(-5, 5)$, the slope of the line is

$$\begin{aligned}m &= \frac{2 - 5}{-6 - (-5)} \\ &= \frac{-3}{-1} \\ &= 3.\end{aligned}$$

$$5 = 3(-5) + b$$

$$5 = -15 + b$$

$$20 = b$$

The equation of the line is $y = 3x + 20$.

Go to [onlinemathlearning.com](https://www.onlinemathlearning.com) for more free math resources