Key Point

The equation of a straight line with gradient m passing through the origin is given by

$$y = mx.$$

Key Point

The equation of a straight line with gradient m and intercept c on the y-axis is

$$y = mx + c.$$

Key Point

The equation of a straight line with gradient m, passing through the point (x_1, y_1), is

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

Key Point

The equation of a straight line passing through the two points (x_1, y_1) and (x_2, y_2) is

$$\frac{y - y_1}{y_2 - y_1} = \frac{x - x_1}{x_2 - x_1}.$$

Key Point

The most general equation of a straight line is

$$ax + by + c = 0.$$

If $a = 0$ then the line is horizontal, and if $b = 0$ then the line is vertical.