

Intercept of a Line

All straight lines cross at least one of the coordinate axes. The points where the line crosses the axis is called the intercept.

The x-intercept is the point where line crosses the x-axis. To find the x-intercept of a line, set $y = 0$ and solve the resulting equation for x . $(x,0)$

The y-intercept is the point where the line crosses the y-axis. To find the y-intercept of a line, set $x = 0$ and solve the resulting equation. $(0,y)$

Example:

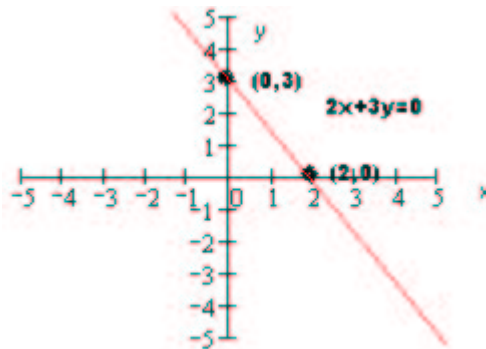
Find the x-intercept and the y-intercept of $3x + 2y = 6$

x-intercept

$$\begin{aligned}y = 0 &\Rightarrow 3x + 2(0) = 6 \\ &3x = 6 \\ &x = 2 \quad (2,0)\end{aligned}$$

y-intercept

$$\begin{aligned}x = 0 &\Rightarrow 3(0) + 2y = 6 \\ &2y = 6 \\ &y = 3 \quad (0,3)\end{aligned}$$

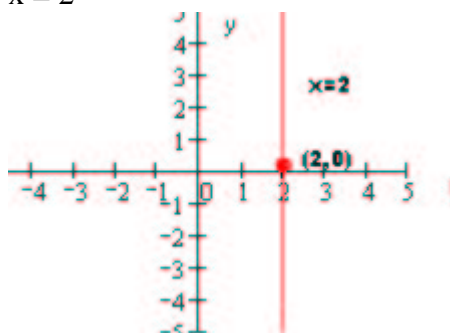


Special Cases

Vertical Lines ($x = K$) have only a x-intercept

Example:

$$x = 2$$



Horizontal Lines ($y = K$) have only a y-intercept

Example:

$$y = 3$$

