# System of Equations (Graphical Method)
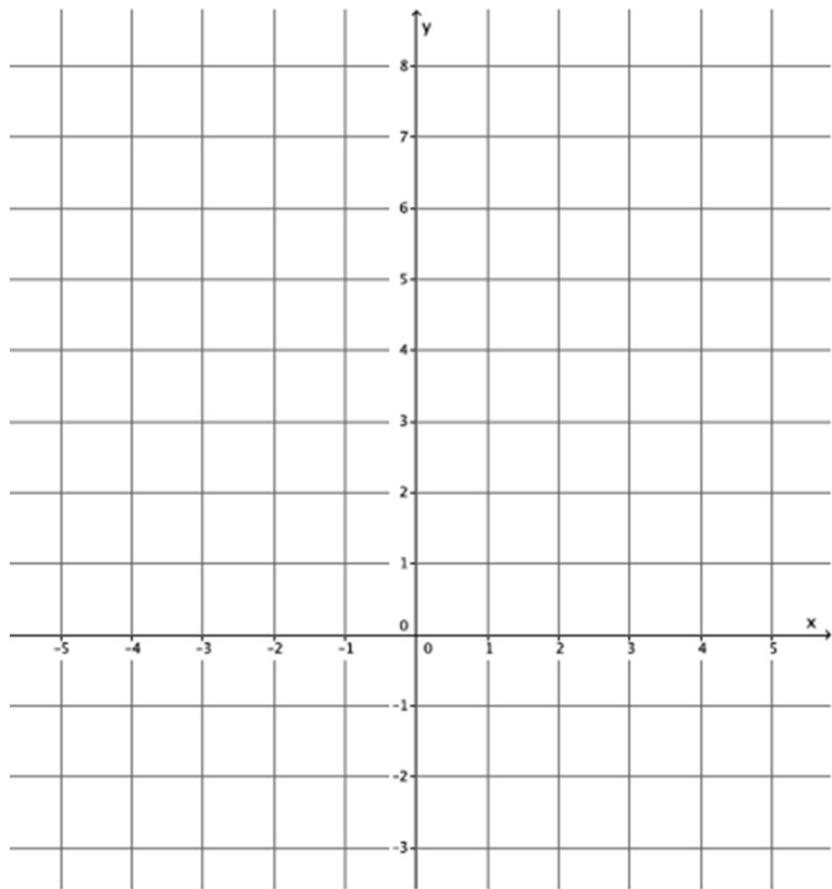
a) Sketch the graphs of the linear system on a coordinate plane: $\begin{cases} x + y = -2 \\ y = 4x + 3 \end{cases}$



b) Name the ordered pair where the graphs of the two linear equations intersect.

c) Verify that the ordered pair named in part (a) is a solution to $x + y = -2$.

d) Verify that the ordered pair named in part (a) is a solution to $y = 4x + 3$.

# System of Equations (Graphical Method)

a) Sketch the graphs of the linear system on a coordinate plane: $\begin{cases} x + y = -2 \\ y = 4x + 3 \end{cases}$
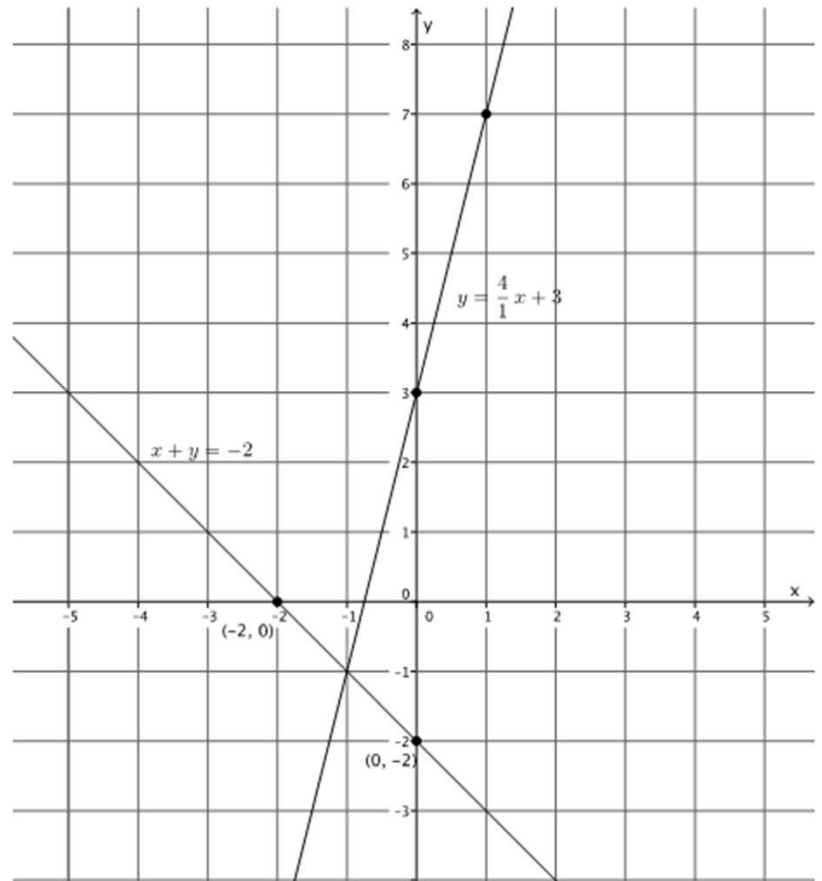
For the equation $x + y = -2$

$$0 + y = -2$$
$$y = -2$$

The y-intercept point is $(0, -2)$.

$$x + 0 = -2$$
$$x = -2$$

The x-intercept point is $(-2, 0)$.

For the equation $y = 4x + 3$:

The slope is $\frac{4}{1}$, and the y-intercept point is $(0, 3)$.



b) Name the ordered pair where the graphs of the two linear equations intersect.

$(-1, -1)$

c) Verify that the ordered pair named in part (a) is a solution to $x + y = -2$.

$$-1 + (-1) = -2$$
$$-2 = -2$$

*The left and right sides of the equation are equal.*

d) Verify that the ordered pair named in part (a) is a solution to $y = 4x + 3$.

$$-1 = 4(-1) + 3$$
$$-1 = -4 + 3$$
$$-1 = -1$$

*The left and right sides of the equation are equal.*