BECA / Dr. Huson / Regents Prep: Graphs First and last name:
25 October 2024 Section:

1.5 Do Now: Graphing lines and finding intersections

1. Graph and label the two equations. Mark their intersection as an ordered pair.

$y = -x - 2$

Write down the slope and y-intercept of the first equation.

(a) $m =$

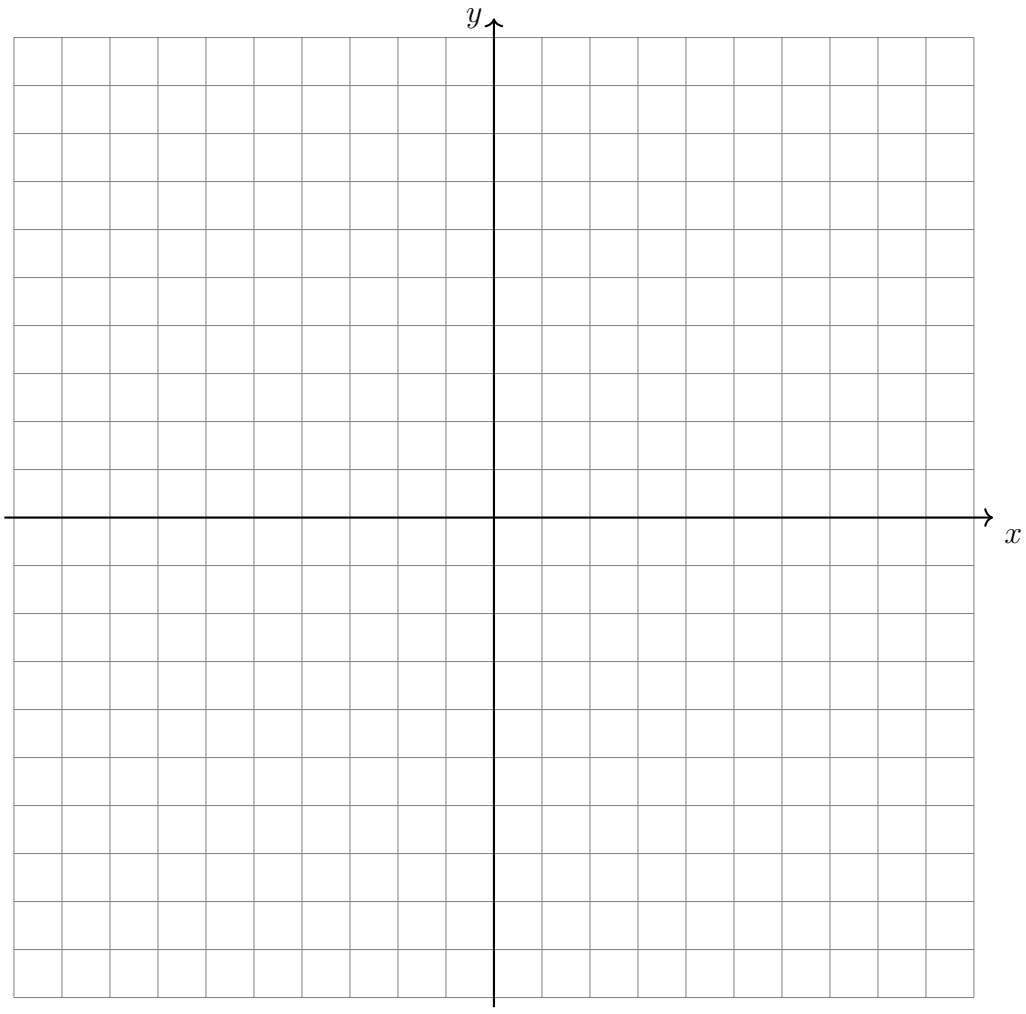
(b) $b =$

$3x + y = 6$

Complete the two values in the table.

x	y
0	____
____	0

Write as slope-intercept form, $y = mx + b$.



2. Each quadratic equation has been factored as the first step to solve x. Complete each problem.

(a)

$$x^2 + 9x + 18 = 0$$
$$(x + 3)(x + 6) = 0$$

(b)

$$x^2 - 2x - 15 = 0$$
$$(x - 5)(x + 3) = 0$$

3. Factor each equation and solve for the values of x.

(a) $x^2 - x - 12 = 0$

(b) $x^2 - x - 6 = 0$

Quadratic formula: For $ax^2 + bx + c = 0$, $x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

4. Solve using the quadratic formula. (example given)

(a) $2x^2 + 9x + 9 = 0$ solution:

$$x = \frac{-9 \pm \sqrt{81 - 72}}{4}$$
$$x = \frac{-9 \pm \sqrt{9}}{4}$$
$$x = \frac{-9 \pm 3}{4}$$
$$x = \frac{-6}{4} \quad \text{or} \quad x = \frac{-12}{4}$$
$$x = -1.5 \quad \text{or} \quad x = -3$$

(b) $2x^2 + 9x + 10 = 0$