

3.12

x- and y-Intercepts of a Line Given the Equation in Standard Form

• Example 1

Find the x - and y -intercepts of the line given by $-x + 2y = 10$
We find the x -intercept of the line by setting $y = 0$ and solving for x .

$$\begin{aligned} -x + 2 \cdot 0 &= 10 \\ x &= -10 \end{aligned}$$

The x -intercept is -10 .

Now we find the y -intercept by setting $x = 0$ and solving for y .

$$\begin{aligned} -0 + 2y &= 10 \\ 2y &= 10 \\ y &= 5 \end{aligned}$$

The y -intercept is 5 .

● ● ● CHECK YOURSELF 1

Find the x - and y -intercepts of the line given by
 $3x + 4y = 12$.

● ● ● CHECK YOURSELF ANSWER

1. x -intercept is 4 ; y -intercept is 3 .

3.12 Exercises

Name _____

Section _____

Date _____

A N S W E R S

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

Find the x - and y -intercepts of the lines given by the following equations.

1. $2x - 3y = 6$

2. $-x - y = 1$

3. $-5x + 6y = 30$

4. $4x - 2y = 4$

5. $-x + 7y = 21$

6. $6x + 4y = 36$

7. $9x - 6y = 54$

8. $7x + 4y = 84$