

P-6 Find the x -intercept of each of the following lines. Be sure to follow the method used in the example problem.

$$1. \quad y = 5x - 35$$

$$0 = 5x - 35$$

$$35 = 5x \text{ so } x = 7$$

x -intercept is $(7, 0)$

$$2. \quad y = 2x - 9$$

$$0 = 2x - 9$$

$$9 = 2x$$

$$4\frac{1}{2} = x$$

x -intercept is $(4\frac{1}{2}, 0)$

$$3. \quad y = 8x + 16$$

$$0 = 8x + 16$$

$$-8x = 16$$

$$x = -2$$

x -intercept is $(-2, 0)$

$$4. \quad y = -3x + 6$$

$$0 = -3x + 6$$

$$3x = 6$$

$$x = 2$$

x -intercept is $(2, 0)$

Rewrite each of the following equations in the form $y = mx + b$. If either m or b turns out to be zero, write your answer in two ways: one showing the zero term and the other omitting it.

$$5. \quad -2x + y = 5$$

$$y = 2x + 5$$

$$7. \quad y - 3 = 0$$

$$y = 3 \quad \text{or} \quad y = 0 \cdot x + 3$$

$$6. \quad 12x + 4y = 20$$

$$4y = -12x + 20$$

$$y = -3x + 5$$

$$8. \quad 3x - y = 15$$

$$-y = -3x + 15$$

$$y = 3x - 15$$

Find the x -value that goes with the given y -value for each of the following equations.

$$9. \quad y = 3x + 7 \text{ with } y = 10$$

$$10 = 3x + 7$$

$$3 = 3x$$

$$1 = x$$

so $x = 1$ when $y = 10$

$$10. \quad 3x + 2y = 12 \text{ with } y = -3$$

$$3x + 2(-3) = 12$$

$$3x - 6 = 12$$

$$3x = 18$$

$$x = 6$$

so $x = 6$ when $y = -3$