Name: _____

# Finding Intercepts of Linear Equations

**Intercepts** are points on a graph where a line intersects the *x*-axis and/or the *y*-axis.

$\qquad$ *x*-intercept: $\quad y = 0 \longrightarrow (4,0)$

$\qquad$ *y*-intercept: $\quad x = 0 \longrightarrow (0,4)$

To find the intercepts from an equation, first substitute 0 for *x* and solve for *y*. Then substitute 0 for *y* and solve for *x*.

**example:** $\quad x + 2y = 7 \quad\longrightarrow\quad 0 + 2y = 7 \quad | \quad x + 2(0) = 7$

$$y = 3.5 \quad | \quad x = 7$$

$\qquad$ *x*-intercept: _____

$\qquad$ *y*-intercept: _____

**2.** $-5x + 4y = 20$

$\qquad$ *x*-intercept: _____

$\qquad$ *y*-intercept: _____

**3.** $-3x + 2y = 12$

$x$-intercept: _____

$y$-intercept: _____

**4.** $2x + 8y = -4$

$x$-intercept: _____

$y$-intercept: _____

**6.** $5x - 3y = -15$

$x$-intercept: _____

$y$-intercept: _____

## Finding Intercepts of Linear Equations

**1.** $2x + 9y = 18$

$x$-intercept: _____**(9,0)**_____

$y$-intercept: _____**(0,2)**_____

$2(0) + 9y = 18$
$9y = 18$
$y = 2$
$(0,2)$

$2x + 9(0) = 18$
$2x = 18$
$x = 9$
$(9,0)$

**8.** $5x - 3y = -15$

$x$-intercept: _____**(-3,0)**_____

$y$-intercept: _____**(0,5)**_____

$5(0) - 3y = -15$
$-3y = -15$
$y = 5$
$(0,5)$

$5x - 3(0) = -15$
$5x = -15$
$x = -3$
$(-3,0)$

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