Name _____ Date _____ Class _____

Practice C

Using Intercepts

Find the *x*- and *y*-intercepts.

1.

2.

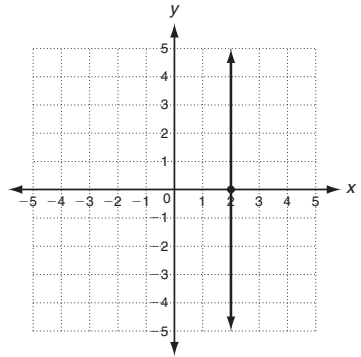**3.**

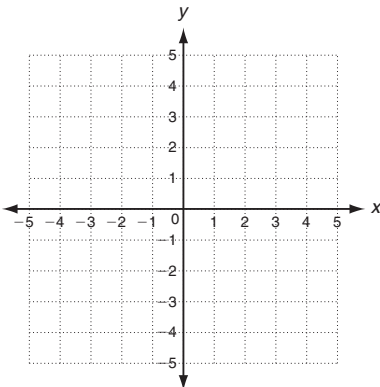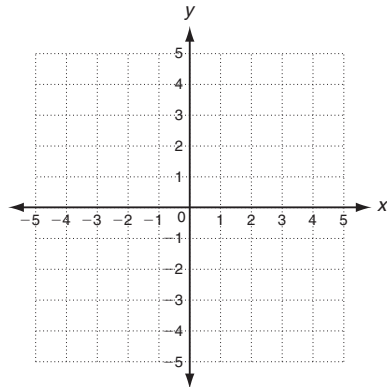_____   _____   _____

_____   _____   _____

Use intercepts to graph the line described by each equation.

4. $y = 0.25x - 1$
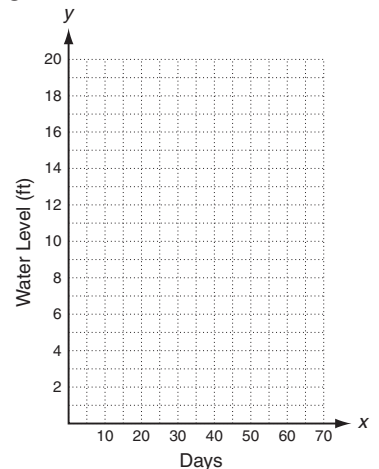

5. $\frac{1}{3}x + y = 1$

6. The change in water level of one portion of the Mississippi River is about -0.3 ft per day. If the water level starts at 17 feet and falls for *x* days, the level is represented by the function $f(x) = 17 - 0.3x$.
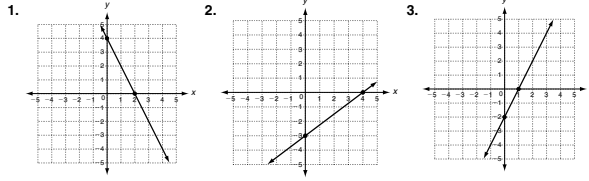
a. Find the intercepts and graph the function.

_____

b. What does each intercept represent?

_____

_____

_____

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Practice A
Using Intercepts

Find the x- and y-intercepts.

1.

2.

3.

x-intercept: __2__   x-intercept: __4__   x-intercept: __1__

y-intercept: __4__   y-intercept: __−3__   y-intercept: __−2__

4. Find the intercepts of $2x + 3y = 6$ by following the steps below.

a. Substitute $y = 0$ into the equation. Solve for x.
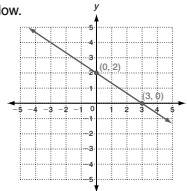
$$x = 3$$

b. The x-intercept is: __3__

c. Substitute $x = 0$ into the equation. Solve for y.

$$y = 2$$

d. The y-intercept is: __2__

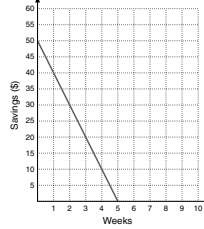e. Use the intercepts to graph the line described by the equation.

5. Jennifer started with $50 in her savings account. Each week she withdrew $10. The amount of money in her savings account after x weeks is represented by the function $f(x) = 50 - 10x$.

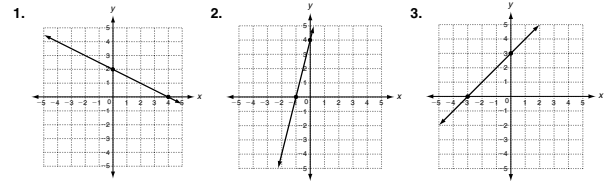a. Find the intercepts and graph the function.

__x-int: 5; y-int: 50__

b. What does each intercept represent?

__x-int: the amount of money after__

__5 weeks. y-int: the amount of money__

__before she makes any withdrawals__

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Holt Algebra 1

Practice B
Using Intercepts

Find the x- and y-intercepts.

1.

2.

3.

__x-int: 4__   __x-int: −1__   __x-int: −3__

__y-int: 2__   __y-int: 4__   __y-int: 3__

Use intercepts to graph the line described by each equation.

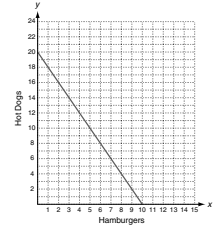**4.** $3x + 2y = -6$
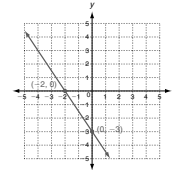
5. $x - 4y = 4$
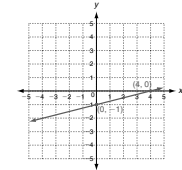
6. At a fair, hamburgers sell for $3.00 each and hot dogs sell for $1.50 each. The equation $3x + 1.5y = 30$ describes the number of hamburgers and hot dogs a family can buy with $30.
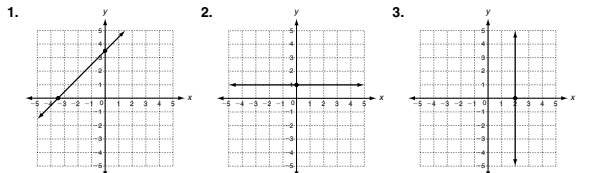
a. Find the intercepts and graph the function.

__x-int: 10; y-int: 20__

b. What does each intercept represent?

__x-int: the number of hamburgers__
__they can buy if they buy no hot dogs.__
__y-int: the number of hot dogs they__
__can buy if they buy no hamburgers.__

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Holt Algebra 1

Practice C
Using Intercepts

Find the x- and y-intercepts.

1.

2.

3.

__x-int: −3.5__   __x-int: none__   __x-int: 2__

__y-int: 3.5__   __y-int: 1__   __y-int: none__

Use intercepts to graph the line described by each equation.
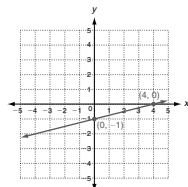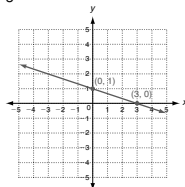
4. $y = 0.25x - 1$

5. $\frac{1}{3}x + y = 1$

6. The change in water level of one portion of the Mississippi River is about -0.3 ft per day. If the water level starts at 17 feet and falls for x days, the level is represented by the function $f(x) = 17 - 0.3x$.

a. Find the intercepts and graph the function.

__x-int: $56\frac{2}{3}$; y-int: 17__

b. What does each intercept represent?

__x-int: the number of days it will__
__take for the river to run dry.__
__y-int: the water level before it falls.__

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Holt Algebra 1
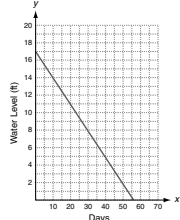
Reteach
Using Intercepts

The **x-intercept** is the x-coordinate of the point where the graph intersects the x-axis.
The **y-intercept** is the y-coordinate of the point where the graph intersects the y-axis.

At a baseball game, Doug has $12 to spend on popcorn and peanuts. The peanuts are $4 and the popcorn is $2. The function $4x + 2y = 12$ describes the amount of peanuts x and popcorn y he can buy if he spends all his money. The function is graphed below. Find the intercepts. What does each intercept represent?

The graph crosses the y-axis at (0, 6).
The y-intercept is 6.

The graph crosses the x-axis at (3, 0).
The x-intercept is 3.
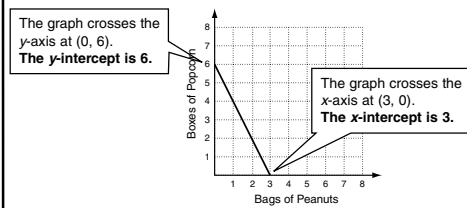
The x-intercept 3 is the amount of peanuts Doug can buy if he buys no popcorn.

The y-intercept 6 is the amount of popcorn Doug can buy if he buys no peanuts.

Find the x- and y-intercepts.

1.

2.

3.
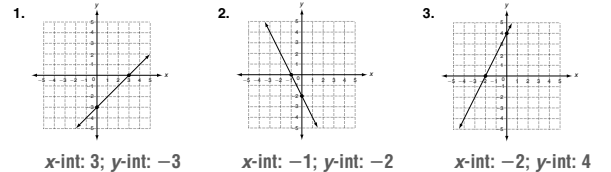
__x-int: 3; y-int: −3__   __x-int: −1; y-int: −2__   __x-int: −2; y-int: 4__

4. The volleyball team is traveling to a game 120 miles away. Their average speed is 40 mi/h. The graphed line describes the distance left to travel at any time during the trip. Find the intercepts. What does each intercept represent?

__x-int: 3; the time it took to complete the trip.__

__y-int: 120; the number of miles left to driven.__

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Holt Algebra 1

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Holt Algebra 1