Bell Work 3/4/2015

Solve the following equations **for y**:

(get y alone)

$$14 = 21x + 7y$$

$-21x \quad -21x$

$$\frac{14 - 21x}{7} = \frac{7y}{7}$$

$$\boxed{2 - 3x = y}$$

Words of the Day

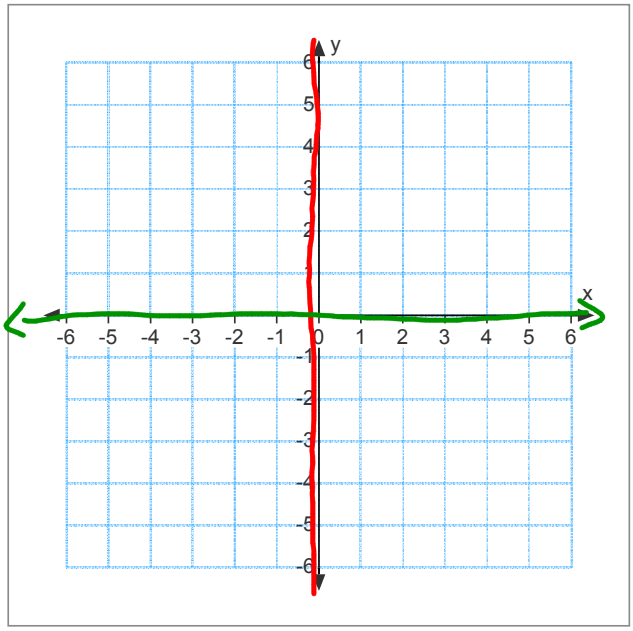
x-intercept

y-intercept

Learning Goals

I can find the x and y intercept of a linear function.

I can graph a linear equation using intercepts.



If a coordinate is on the y-axis, what is the x part of the coordinate?

$x = 0$ for every y-intercept.

If a coordinate is on the x-axis, what is the y part of the coordinate?

$y = 0$ for every x-intercept.

x-intercept

where a graph crosses the x-axis

To find:

substitute zero for y

solve for x

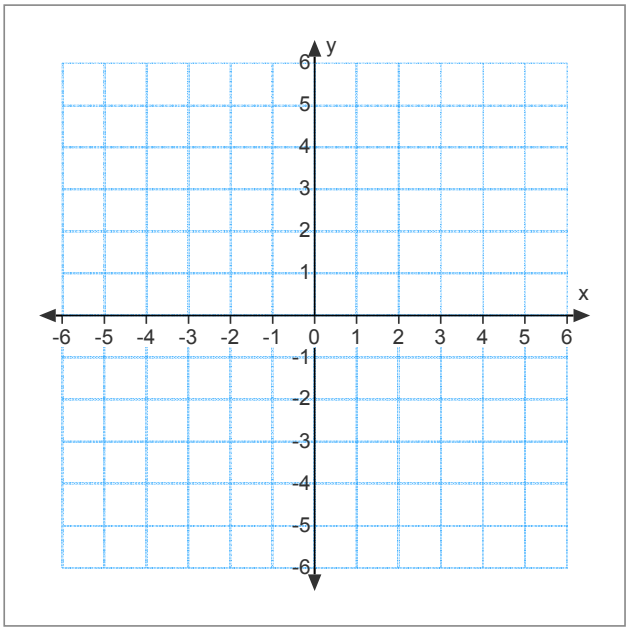
y-intercept

where a graph crosses the y-axis

To find:

substitute zero for x

solve for y



Find the x-intercept and the y-intercept.

1) $4x - 2y = 12$

x-intercept

① Let $y = 0$

② Solve for x.

$4x - 2(0) = 12$

$4x - 0 = 12$

$\frac{4x}{4} = \frac{12}{4}$

$x = 3$

$y = 0$

x-int $(3, 0)$

y-intercept

① Let $x = 0$

② Solve for y

$4(0) - 2y = 12$

$\frac{-2y}{-2} = \frac{12}{-2}$

$y = -6$

$x = 0$

y-int $(0, -6)$

Find the x-intercept and the y-intercept.

2) $-2.2x+0.2y=11$

X-intercept

① let $y=0$

② solve for x

$-2.2x+0.2(0)=11$

$\frac{-2.2x}{-2.2}=\frac{11}{-2.2}$

$x=-5$

$y=0$

x-int $(-5,0)$

y-intercept

① let $x=0$

② solve for y.

$-2.2(0)+0.2y=11$

$\frac{0.2y}{0.2}=\frac{11}{0.2}$

$y=55$

$x=0$

y-int $(0,55)$

Find the x-intercept and the y-intercept.

3) $y = \frac{3}{4}x - 15$

X-int

① let $y = 0$

② Solve for x

$0 = \frac{3}{4}x - 15$

$+15 \quad +15$

$\frac{4}{3} \cdot 15 = \frac{4}{3} \cdot \frac{3}{4}x$

$\frac{4 \cdot 15}{3} = x$

$\frac{60}{3} = x$

$20 = x$

$0 = y$

X-int

$(20, 0)$

Y-int

① let $x = 0$

② solve for y

$y = \frac{3}{4}(0) - 15$

$y = -15$

y-int

$(0, -15)$

Use the x and y intercept to graph.

4) $y = -4x - 8$

x-int

1) let y = 0

2) Solve for x

$0 = -4x - 8$

$+8 \quad +8$

$\frac{8}{-4} = \frac{-4x}{-4}$

$-2 = x$

x-int

(-2, 0)

y-int

1) let x = 0

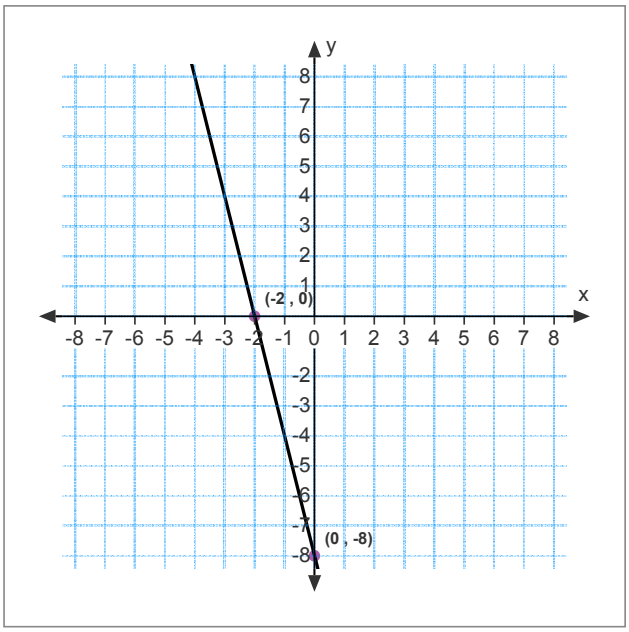
2) Solve for y

$y = -4(0) - 8$

$y = -8$

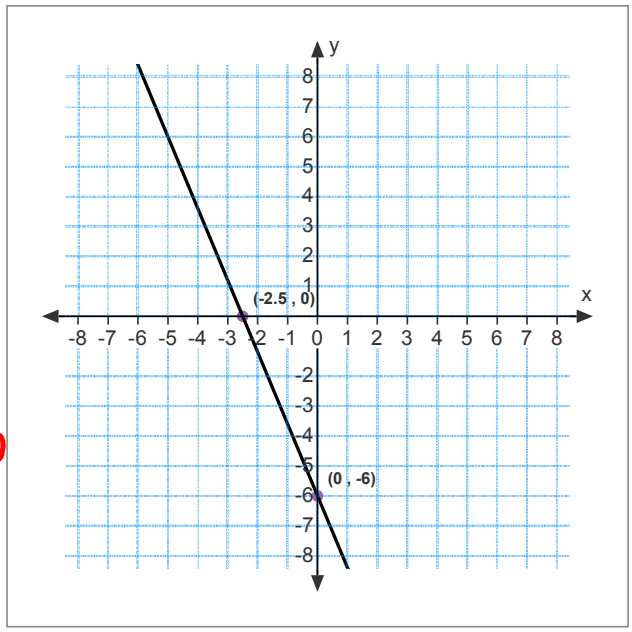
y-int

(0, -8)



Use the x and y intercept to graph.

5) $-5x-12y=30$



X-int

let $y=0$

Solve for x

$-5x-12(0)=30$

$\frac{-5x}{-5}=\frac{30}{-5}$

$x=-6$

$(-6,0)$

y-int

let $x=0$

Solve for y

$-5(0)-12y=30$

$\frac{-12y}{-12}=\frac{30}{-12}$

$y=-2.5$

$(0,-2.5)$

Use the x and y intercept to graph.

6) $y = \frac{1}{3}x + \frac{1}{2}$

X-int

1) let y = 0

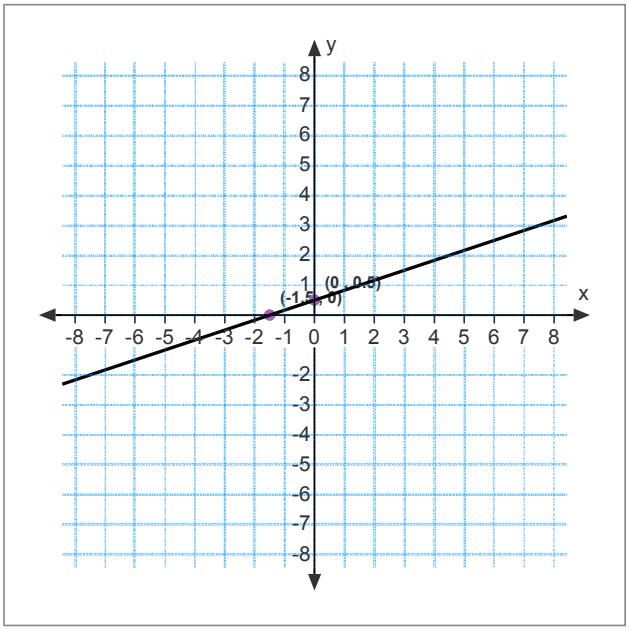
2) Solve for x

$0 = \frac{1}{3}x + \frac{1}{2}$

$-\frac{1}{2} \quad -\frac{1}{2}$

$3\left(-\frac{1}{2}\right) = \frac{1}{3}x$

$-1.5 = x$



p.229 #5- 27 odds (12 questions)

FINDING INTERCEPTS **Find the x-intercept and the y-intercept of the graph of the equation.**

5. $3x - 3y = 9$

7. $4x + y = 4$

9. $2x - 8y = 24$

11. $0.2x + 3.2y = 12.8$

13. $y = -14x + 7$

15. $y = \frac{3}{5}x - 12$

GRAPHING LINES **Graph the equation. Label the points where the line crosses the axes.**

17. $y = x - 2$

19. $y = 5 + 10x$

21. $y = -4x + 3$

23. $x - 4y = 18$

25. $-2x + 5y = 15$

27. $y = \frac{1}{2}x + \frac{1}{4}$