Name: _____

UNIT 1

Simplify each expression.

$(3g - 5) + (2g + 3h - 5)$

$x + y - (3x - y)$

$(-4m - 2n) - (-5m + 6n)$

$2x + 5 + (8x - 9)$

$5(b + c) - 4(3b - 2c + 1)$

$8 - 10(2 - 3f)$

Solve each equation.

$-8 - 3k = 43$

$20 = -2(-6 + m)$

$-3 + \frac{a}{-2} = -8$

$-6(4f + 5) - 5f = 144$

$-3 + w = -(4w - 2) - 5$

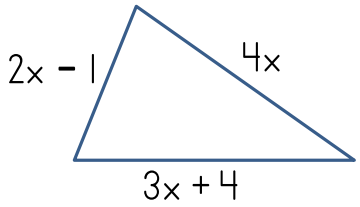
$\frac{g}{4} + 6 = -1$

$-(2p + 8) = 4(1 - 2p)$

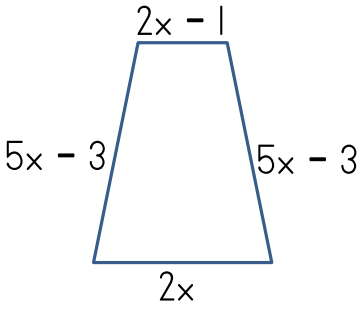
$7a - 1 = 104$

$8k + 6(7 - 5k) = -30 + 2k$

Find the length of each side of the figure if the perimeter is 57 cm.



Find the length of each side of the figure if the perimeter is 35 inches.



Classify each of the following numbers as:

(choose all that apply)

a) real	b) rational	c) irrational
d) integers	e) whole	f) natural

$-\sqrt{25}$ $\quad 3\pi \quad \frac{3}{6}$

$1.\overline{32}$ $\quad \frac{20}{4} \quad \sqrt{5} \quad \frac{\sqrt{16}}{2}$

Answer the following questions based on each situation.

To reduce waste, The Green Café offers a reduced rate on coffee this month for anyone buying a Green mug. The mug costs $2.95 and is filled with a rate of $0.50 per refill. A refill without the Green mug costs $0.85.

- Write and solve an equation to determine the approximate break-even point for buying the mug and refills in comparison for paying for refills without purchasing the mug.

- When is it more economical to purchase the mug with refills?

Your friend Charlie is going to publish a 500-page book. Thrifty Publishing has a one-time charge of $8.00 for setup and charges $0.05 per page of printing. Creative Creations charges $0.03 per page of printing and a one-time setup fee of $10.50.

- Write an equation to determine how many pages can be printed at each company for the cost to be the same.

- Which company would be the best choice for Charlie to use to print his book? Provide justification for your response.

UNIT 2

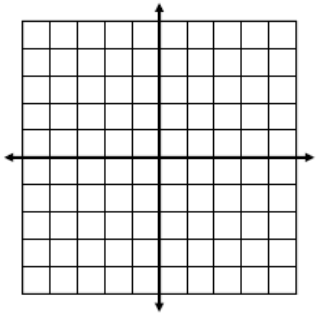
The set of all x-values is called the _____.

The set of all y-values is called the _____.

Create a table, mapping, and graph of the relation.

$\{(-3, 1), (-2, 0), (1, 2), (3, -4), (-3, 5)\}$

x	y



Domain: _____

Range: _____

Function: YES NO

Match the function to the table of values.

A.

x	-3	-1	2	6
y	-10	-8	-5	-1

B.

x	-1	2	3	5
y	4	-5	-8	-14

C.

x	-3	0	3	9
y	2	4	6	10

D.

x	-2	2	4	6
y	1	3	4	5

$f(x) = \frac{2}{3}x + 4$ $f(x) = \frac{1}{2}x + 2$ $f(x) = x - 7$ $f(x) = -3x + 1$

_____ _____ _____ _____

Given the domain of $\{-2, -1, 0, 1, 2\}$, determine the range of the following function.

$f(x) = -4x - 5$

What is a possible ordered pair that would make this relation a function?

$\{(0, -2), (-3, -1), (5, 4), (x,y)\}$

What is a possible ordered pair that would make this relation **NOT** a function?

$\{(0, -2), (-3, -1), (5, 4), (x,y)\}$

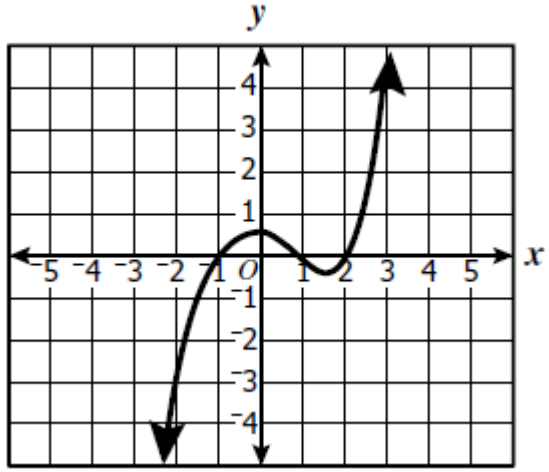
Given the following graph, find each of the following.

$f(1)$ _____

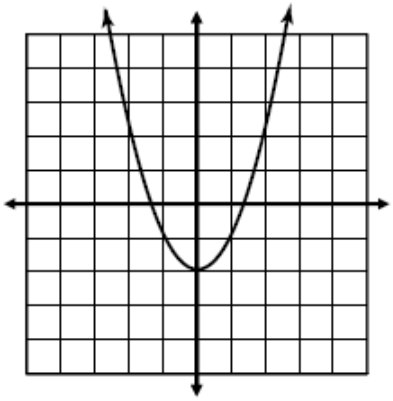
$f(x) = 4$ _____

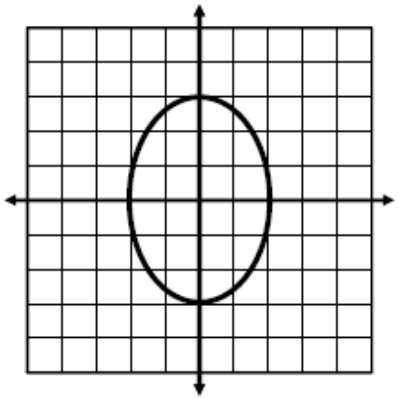
$f(-2)$ _____

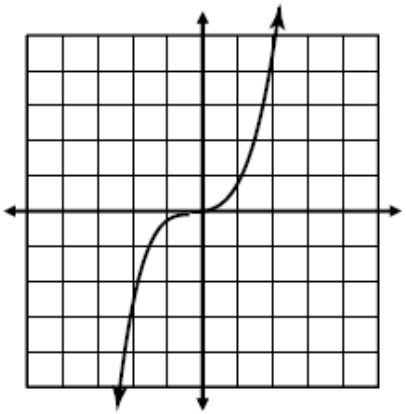
$f(x) = 0$ _____

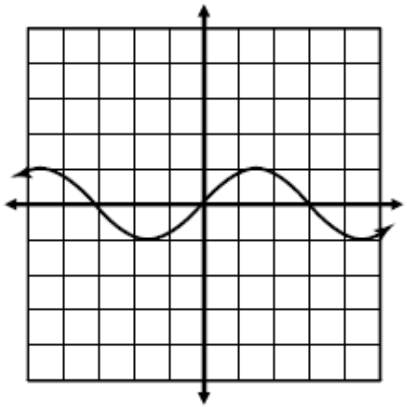


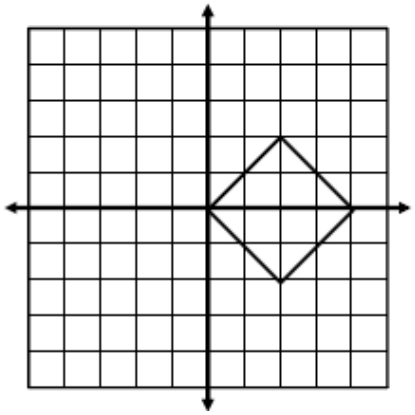
Determine if each of the following graphs represent a function. Write YES or NO.

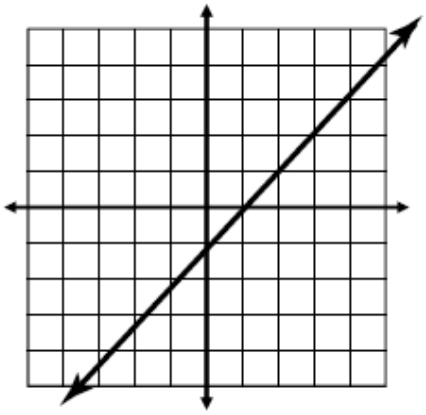












For which function(s) does f(5) = 12?

A. $f(x) = 3x - 8$

B. $f(x) = -x + 17$

C. $f(x) = x - 7$

D. $f(x) = 3x - 3$

A kennel charges $15 per day to board dogs. Upon arrival, each dog must have a flea bath that costs $12.

* Make a t-chart to show the cost of boarding a dog for 1, 2, 3, 4, and 5 days.

* Based on the t-chart above, determine the domain and range.

* Write a rule in function notation to represent the total cost for boarding a dog for *n* days.

* Find f(10) and explain what it means.

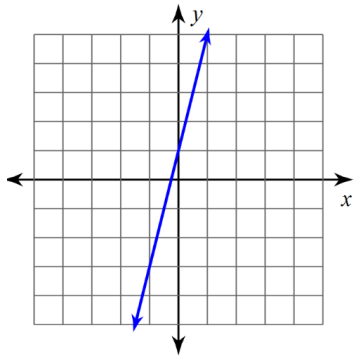
* Find *x* if f(x) = 87 and explain what it means.

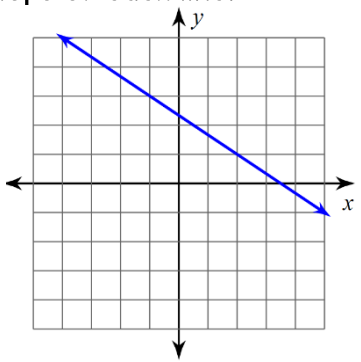
* Is this function continuous or discrete?

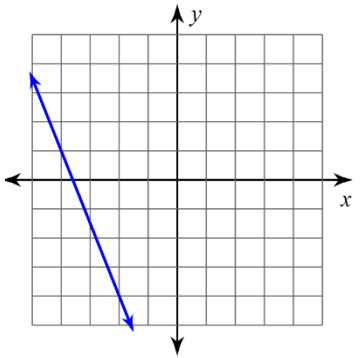
Allison Barkley

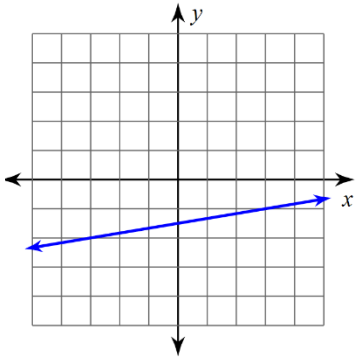
UNIT 3

Determine the slope of each line.









Find the slope of the line that passes through each pair of points.

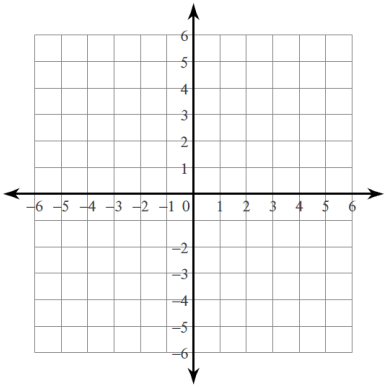
(0, −3) (2, 1)

(12, 2) (18, −2)

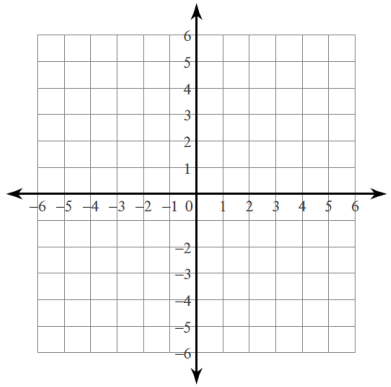
(−2, −3) (−2, −5)

(1, 8) (7, 8)

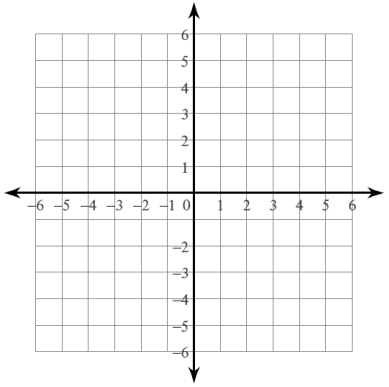
Given the equation of the line, graph each line.



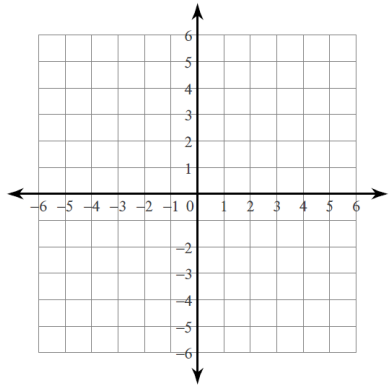
$y = 4x - 1$



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



$y = -2$



$x = 3$

Write an equation in slope-intercept form of each line given the slope and y-intercept.

slope: −2 (0, 4)

slope: $\frac{3}{4}$ (0, −5)

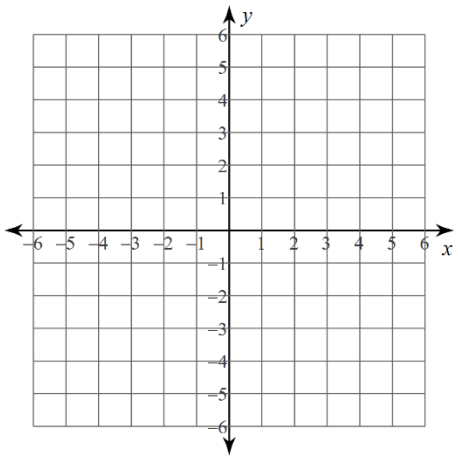
Given the slope and a point, write an equation in point-slope form.

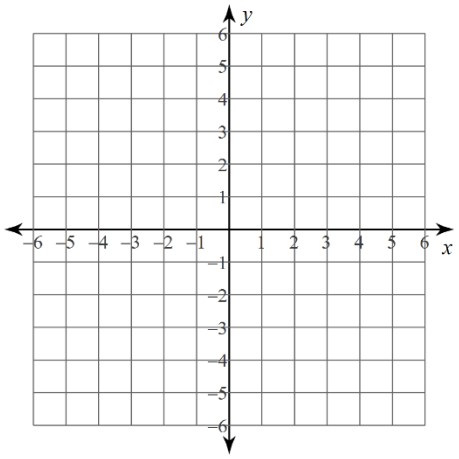
$m = -2$ $(-3, 4)$ $m = \frac{1}{4}$ $(8, -4)$

Using the equations in point-slope form (from above), write an equation in slope-intercept form for each.

Find the x- and y-intercepts for each equation and graph each line.

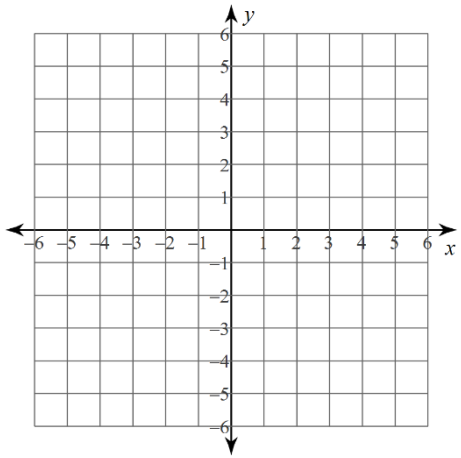
$x - 2y = -4$ $5x + 3y = 15$

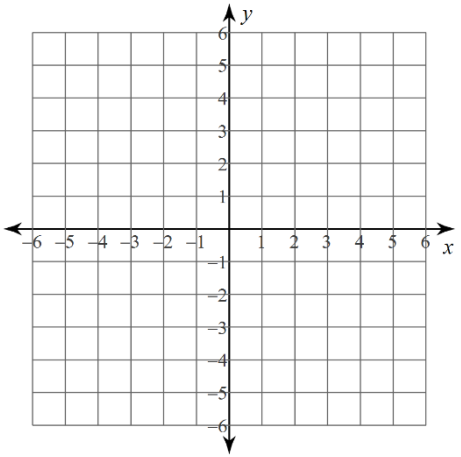




Convert each equation to slope-intercept form and graph each line.

$-4x + 3y = -15$ $-3x - 4y = -8$





Find the slope of a line parallel and perpendicular to each given line.

$y = 4x + 1$ $y = -\frac{3}{2}x - 5$ $y = -2x - 7$

parallel: _____ parallel: _____ parallel: _____

perpendicular: _____ perpendicular: _____ perpendicular: _____

Identify the equation of the line that is parallel to $y = \frac{1}{3}x - 4$.

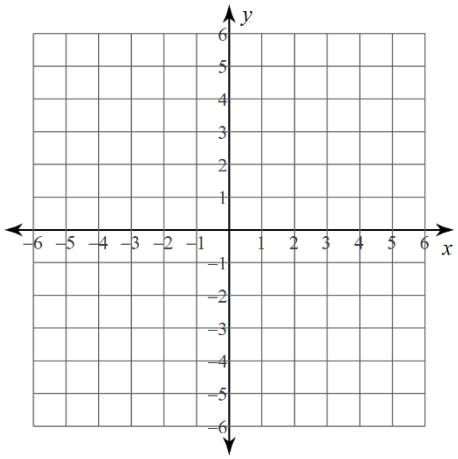
$y = -\frac{1}{3}x + 5$ $y = 3x + 2$

$y = -3x - 7$ $y = \frac{1}{3}x - 6$

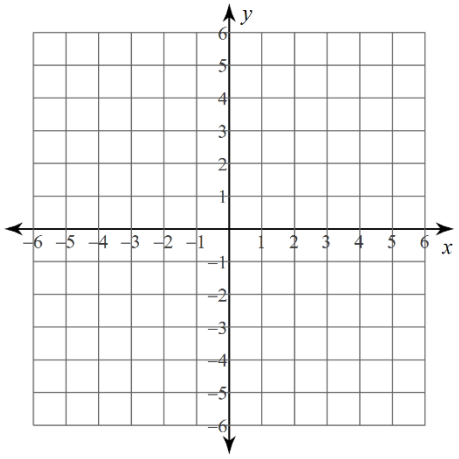
UNIT 4

Solve each system of equations by graphing.

$$\begin{cases} y = \frac{1}{3}x - 1 \\ y = \frac{4}{3}x + 2 \end{cases}$$

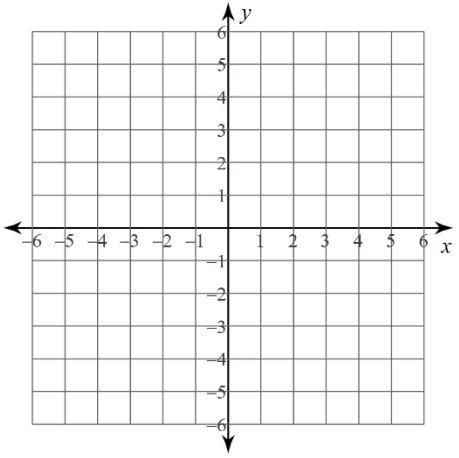


$$\begin{cases} y = -3x + 2 \\ y = -\frac{1}{2}x - 3 \end{cases}$$

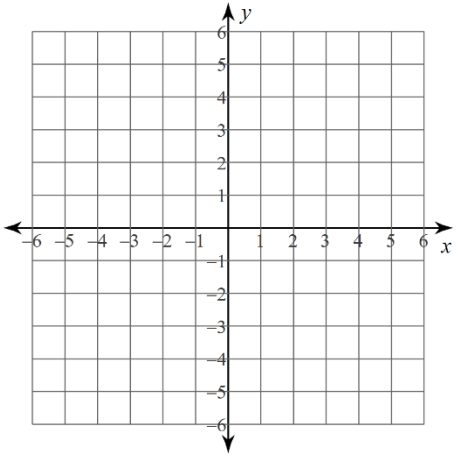


Solve each system of equations by graphing.
Make sure each equation is in slope-intercept form.

$$\begin{cases} -3x + y = -5 \\ y = -x + 3 \end{cases}$$



$$\begin{cases} 2x + y = 2 \\ y = -\frac{1}{3}x - 3 \end{cases}$$



Allison Barkley