# ALEKS®
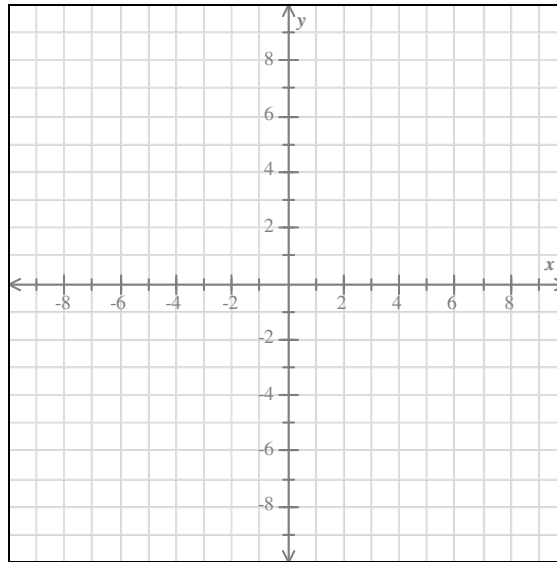
Class Name : **MATH 1050/1051 Fall 2018**          Instructor Name : **Nguyen**

Student Name : _____          Instructor Note :
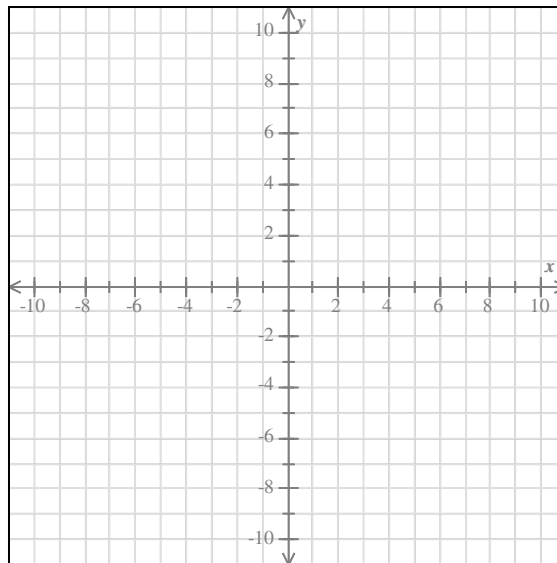
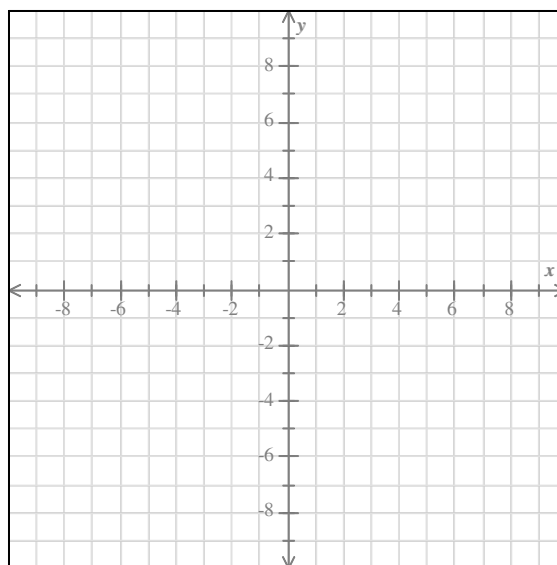**1.** Graph the line.

$$y = 2x - 7$$

**2.** Graph the line.

$$y = \frac{1}{5}x + 6$$

**3.** Graph the line.

$$2x + y = -2$$

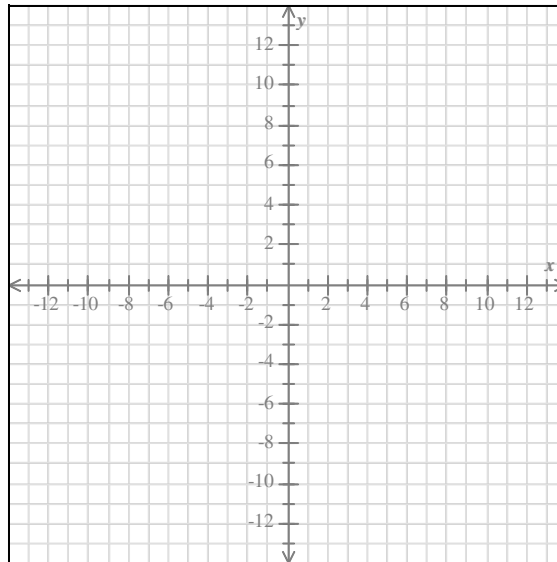**4.** Find the $x$-intercept and $y$-intercept of the line.
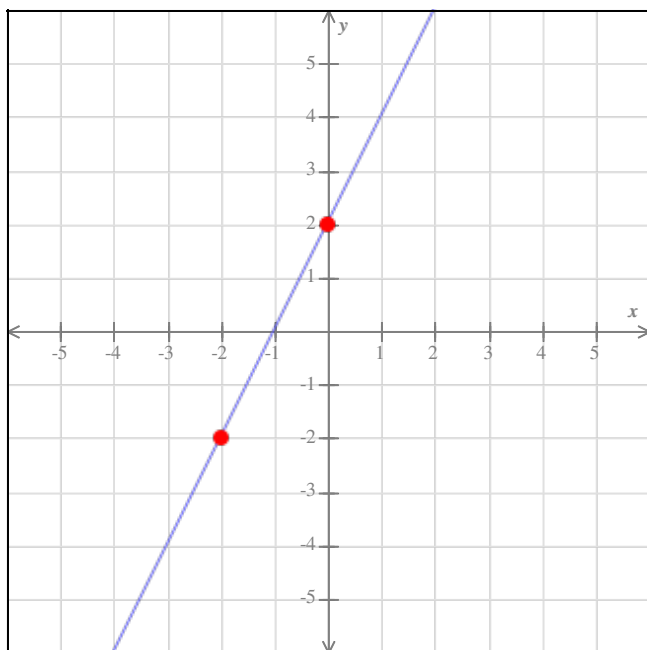
$$-5x+4y=6$$

$x$-intercept: _____

$y$-intercept: _____

**5.** Graph the parabola.

$$y=\frac{1}{2}x^2$$

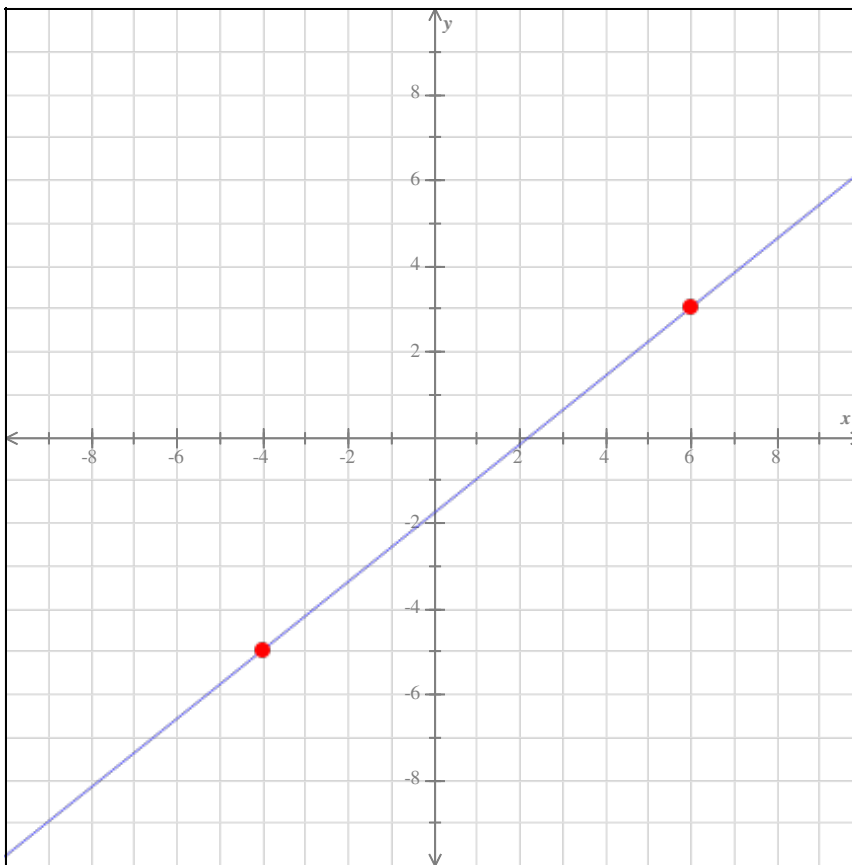**6.** Find the slope of the line graphed below.



**7.** Find the slope of the line passing through the points $(-4, 7)$ and $(2, -8)$.

**8.** Find the slope and the $y$-intercept of the line.

$$3x + 8y = 4$$

Write your answers in simplest form.
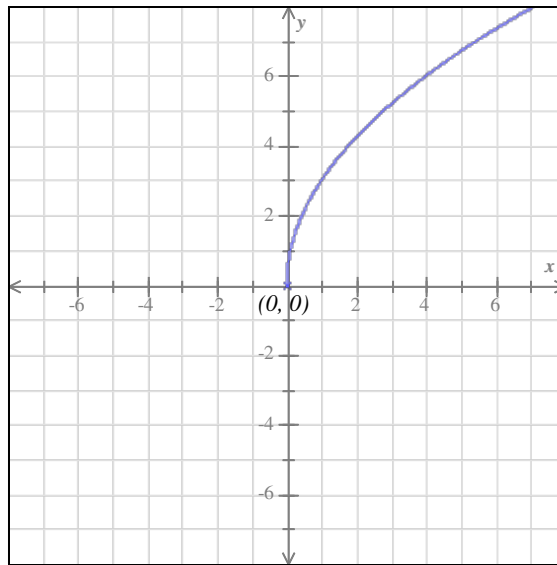
**9.** Find an equation for the line below.



**10.** Consider the line $5x + 6y = -5$.

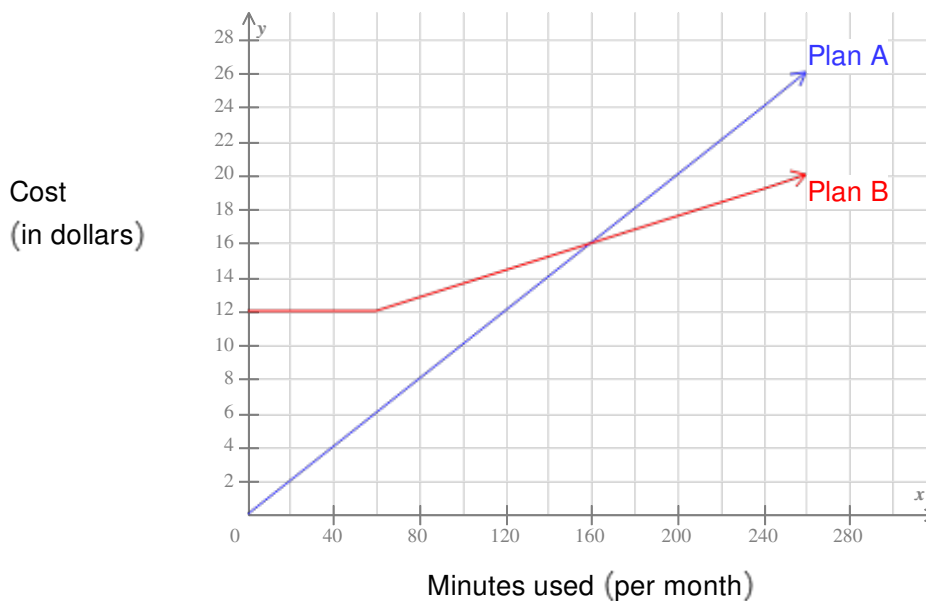What is the slope of a line perpendicular to this line?

What is the slope of a line parallel to this line?

**11.** Below is the graph of $y = 3\sqrt{x}$.

Translate it to make it the graph of $y = 3\sqrt{x+1} + 3$.



**12.** Jim can choose Plan A or Plan B for his long distance charges. For each plan, cost (in dollars) depends on minutes used (per month) as shown below.



Cost (in dollars)

Minutes used (per month)

- If Jim makes $60$ minutes of long distance calls for the month, which plan costs less? How much less does it cost than the other plan?
- For what number of long distance minutes do the two plans cost the same? If the time spent on long distance calls is more than this amount, which plan costs less?
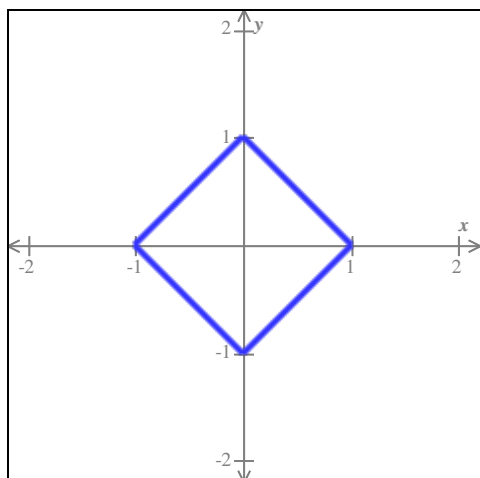
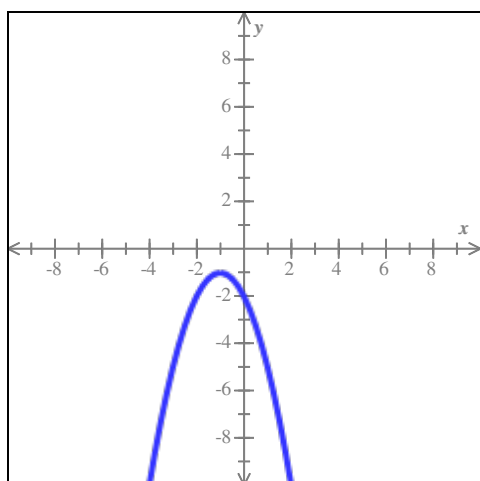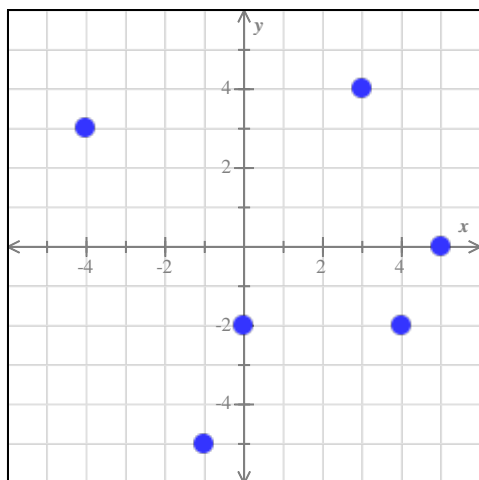**13.** For each graph below, state whether it represents a function.
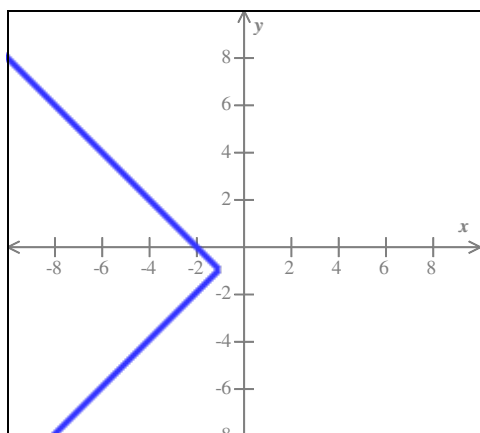
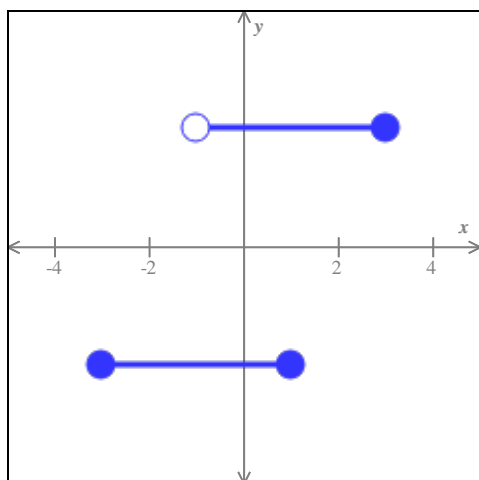Function?:
Yes    No
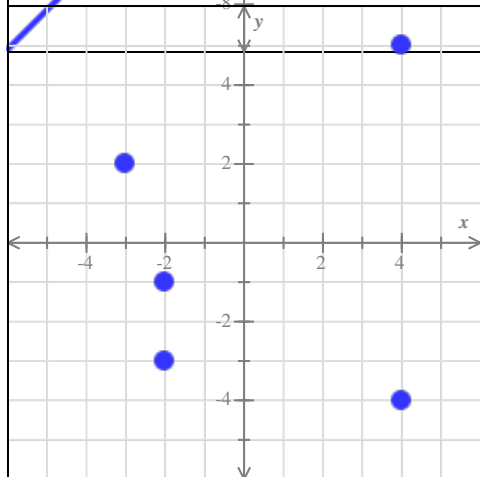
Function?:
Yes    No

Function?:
Yes    No
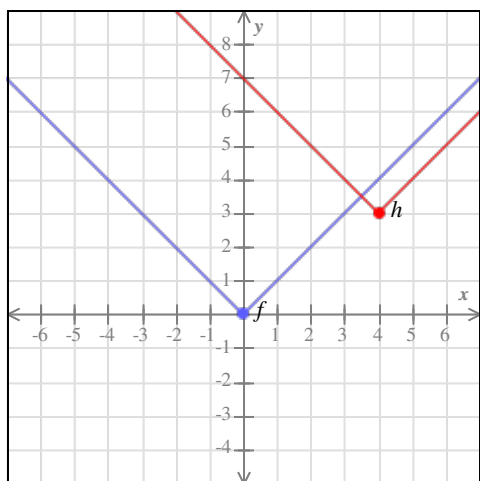
Function?:
Yes    No

Function?:
Yes    No



Function?:
Yes    No

**14.** The graph of $f$ (in blue) is translated a whole number of units horizontally and vertically to obtain the graph of $h$ (in red).
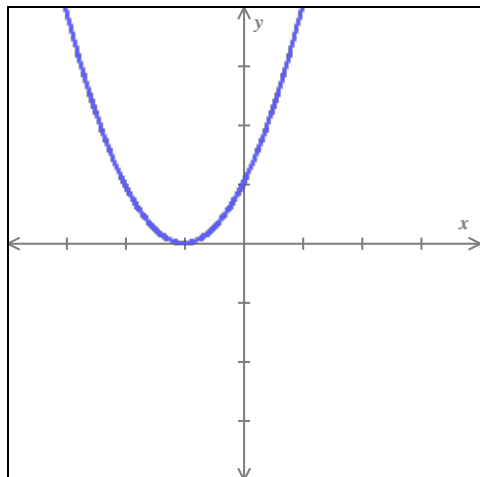
The function $f$ is defined by $f(x) = |x|$.
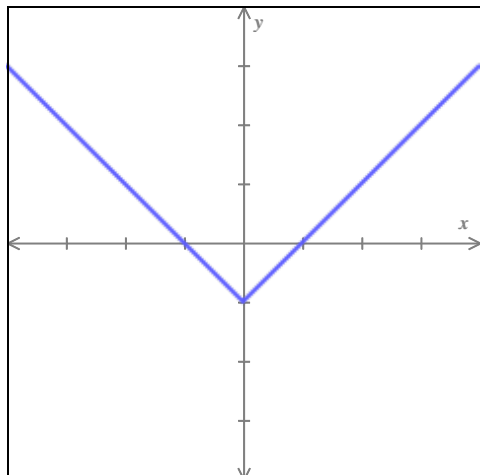
Write down the expression for $h(x)$.



$$h(x) = |x - 4| + 3$$

**15.** Four functions are given below. Either the function is defined explicitly, or the entire graph of the function is shown.

For each, decide whether it is an even function, an odd function, or neither.

The function $r$



- Even - Odd - Neither

The function $s$



- Even - Odd - Neither

$g(x) = 5x^4 - 6x^3$

- Even - Odd - Neither

$h(x) = 2x^3$

- Even - Odd - Neither

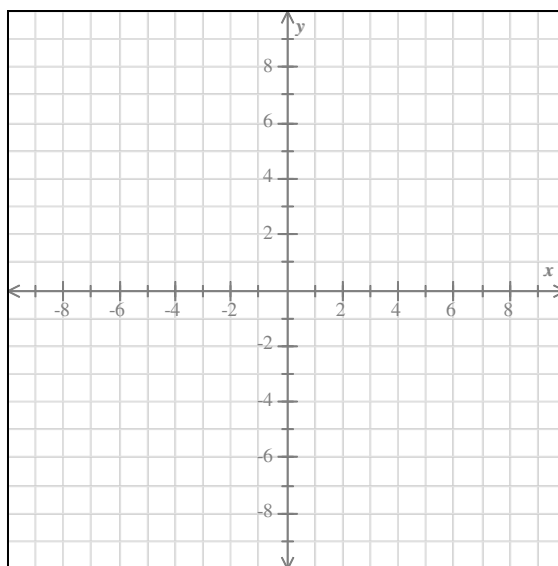**16.** The functions $f$, $g$, and $h$ are defined as follows.

$$f(x) = \frac{12 + x^3}{x^3} \qquad g(x) = \left| -18 + 12x \right| \qquad h(x) = \sqrt{2 + 5x}$$

Find $f(3)$, $g\left(\dfrac{3}{4}\right)$, and $h(3)$.

Simplify your answers as much as possible.

**17.** Graph the parabola.

$$y = (x + 1)^2 + 2$$

**18.** For each scenario below, choose the graph that gives the best representation.

(a) Tommy is delivering a pizza to Mark's house. He drives at a constant speed toward the house until he hits a traffic jam and has to stop for several minutes. After, he starts up again and drives at a faster speed than before.



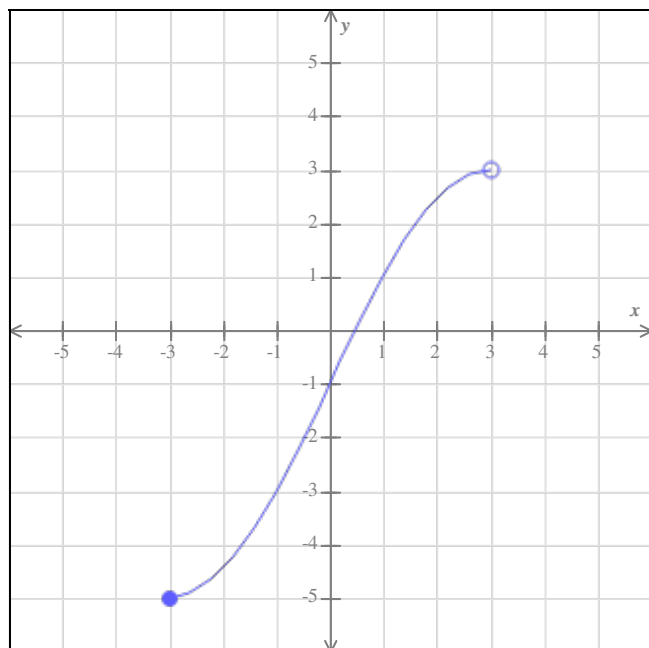○          ○          ○          ○
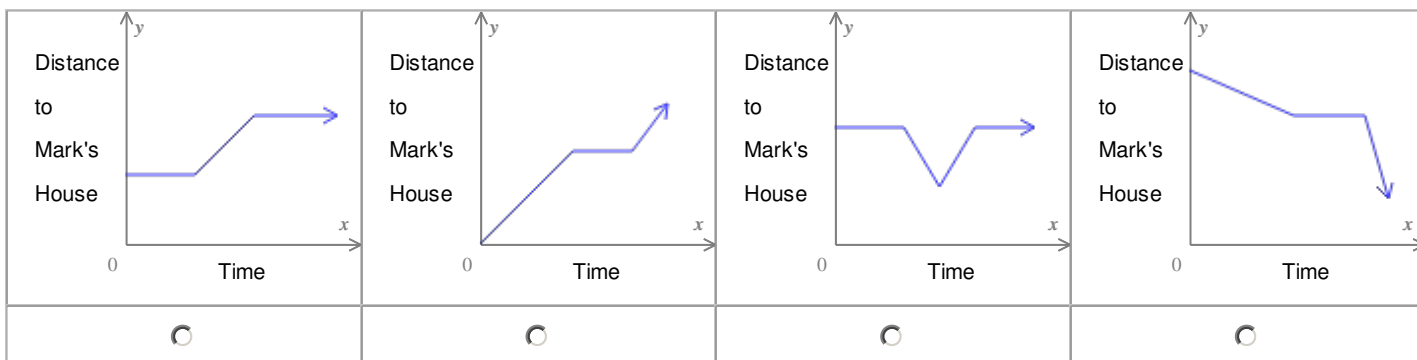
(b) The daily amount of calories that a rat eats increases steadily from birth to about age 3 months. Then the amount levels off until about age 6 months, when it increases again.



○          ○          ○          ○
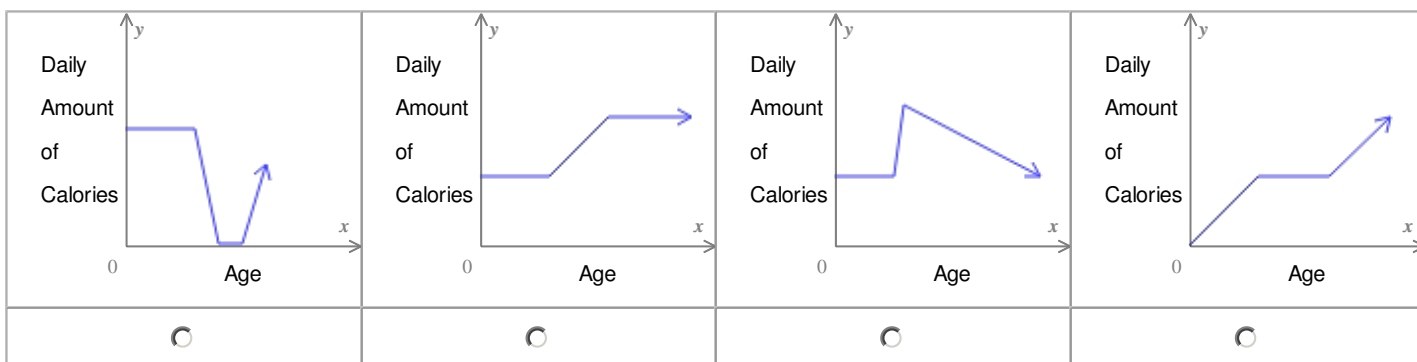
**19.** The entire graph of the function $h$ is shown in the figure below.
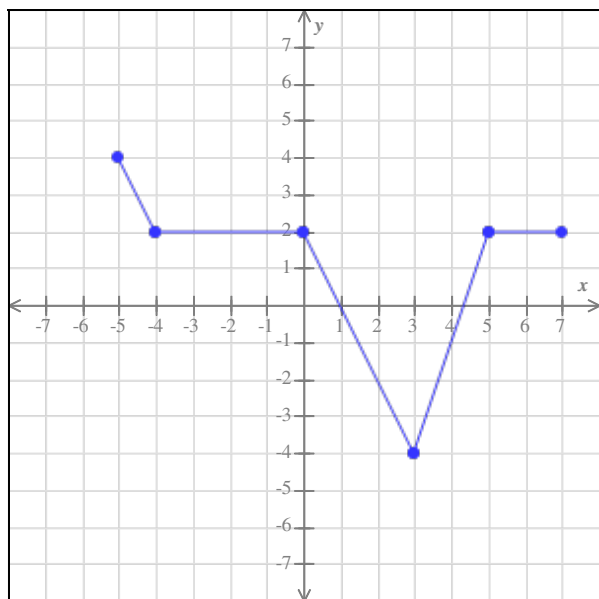
Write the domain and range of $h$ using interval notation.



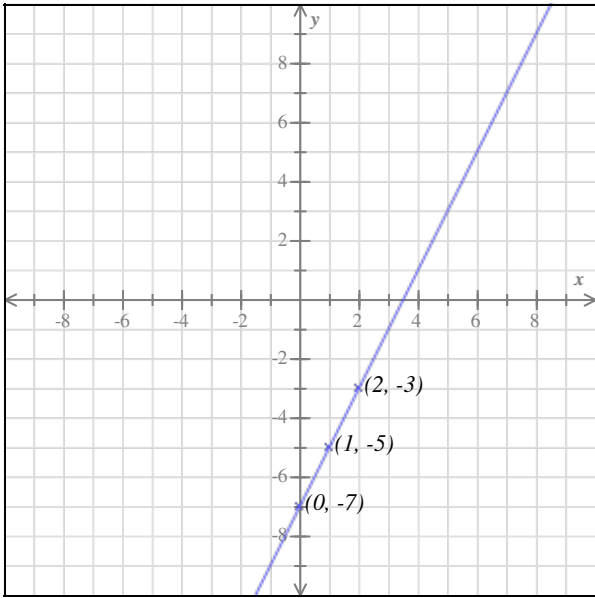**20.** Determine the interval(s) on which the function is constant.

Write your answer as an interval or list of intervals.
When writing a list of intervals, make sure to separate each interval with a comma and to use as few intervals as possible.
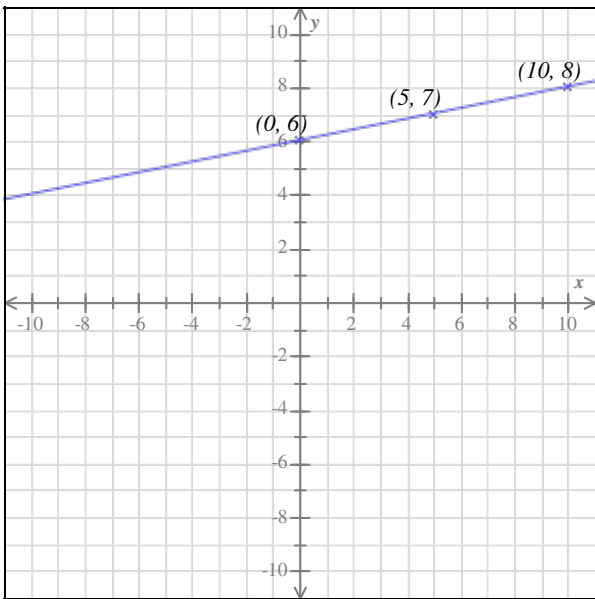
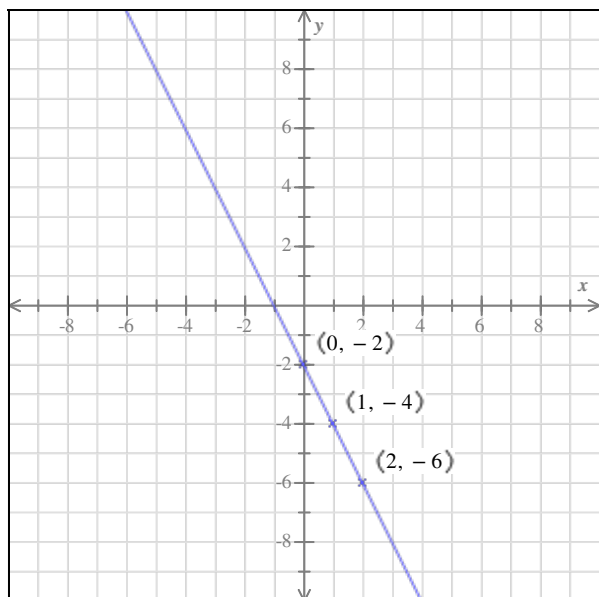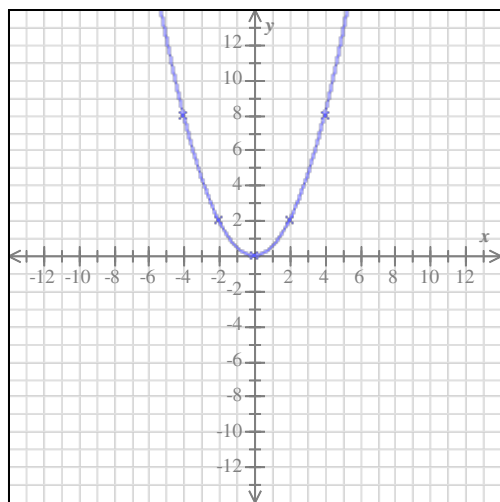# Obj. 5 #5 Answers for class MATH 1050/1051 Fall 2018

**1.**



**2.**

**3.**



**4.** $x$-intercept: $-\dfrac{6}{5}$

$y$-intercept: $\dfrac{3}{2}$

**5.**



**6.** $2$

**7.** $-\dfrac{5}{2}$

**8.** slope: $-\dfrac{3}{8}$

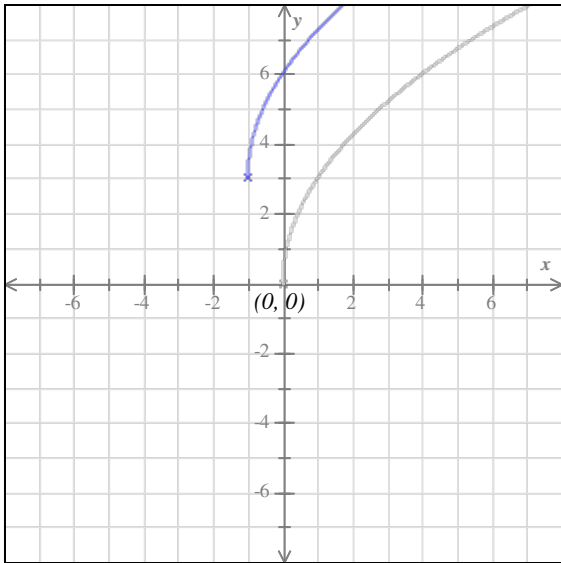$y$-intercept: $\dfrac{1}{2}$

**9.** $y = \dfrac{4}{5}x - \dfrac{9}{5}$

**10.**

Slope of a perpendicular line: $\dfrac{6}{5}$

Slope of a parallel line: $-\dfrac{5}{6}$

**11.**

**12.**

   (a)   If Jim makes $60$ minutes of long distance calls for the month, which plan costs less?

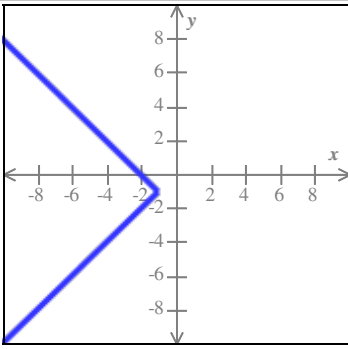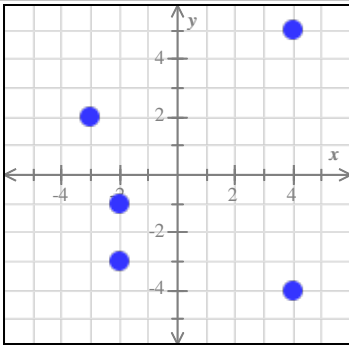Plan A
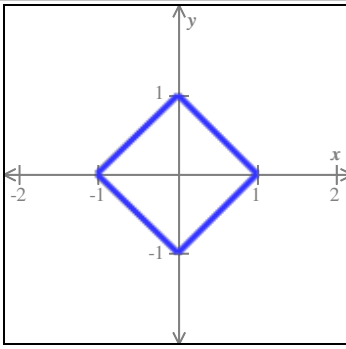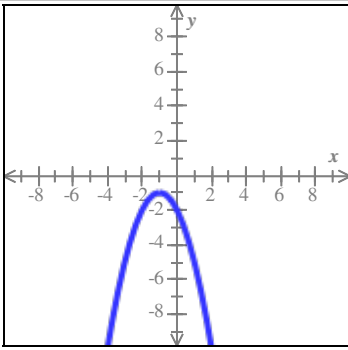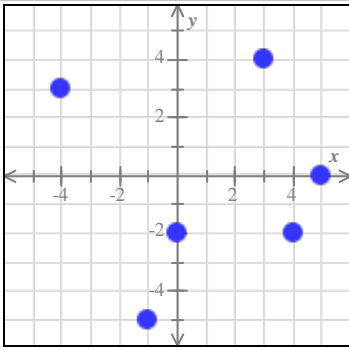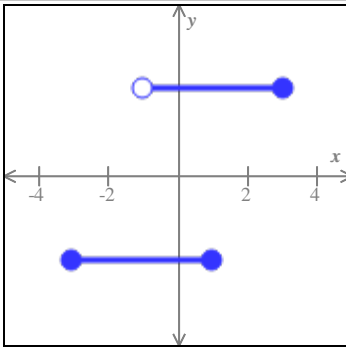
How much less does it cost than the other plan?
$6

   (b)   For what number of long distance minutes do the two plans cost the same?

160

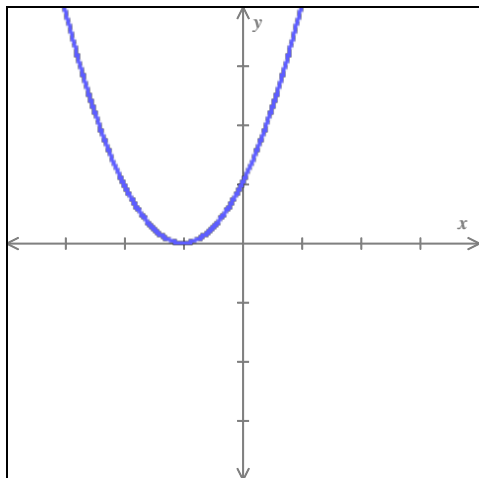If the time spent on long distance calls is more than this amount, which plan costs less?
Plan B

**13.**

| Function? | ○ Yes     ◉ No | ○ Yes     ◉ No | ○ Yes     ◉ No |
|---|---|---|---|
| Function? | ◉ Yes     ○ No | ◉ Yes     ○ No | ○ Yes     ◉ No |

**14.** $h(x) = |x - 4| + 3$

   

**15.**

The function $r$



 - Neither

The function $s$
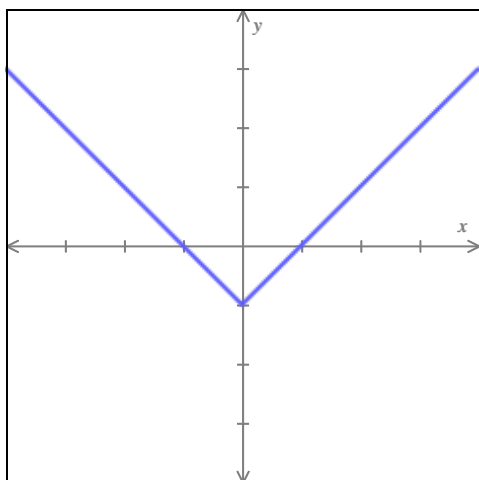


 - Even

$$g\left(x\right)=5x^{4}-6x^{3}$$

 - Neither

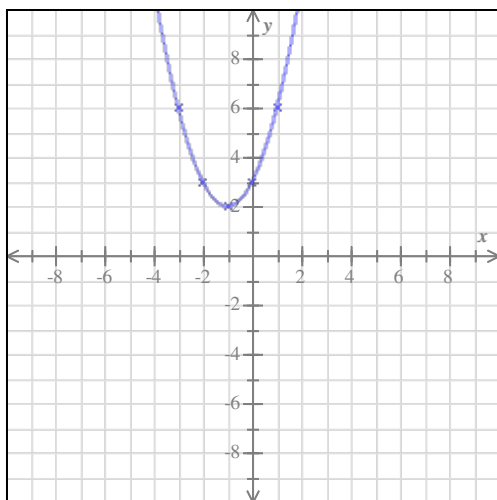$$h\left(x\right)=2x^{3}$$

 - Odd

**16.**

$$f(3) = \frac{13}{9}$$
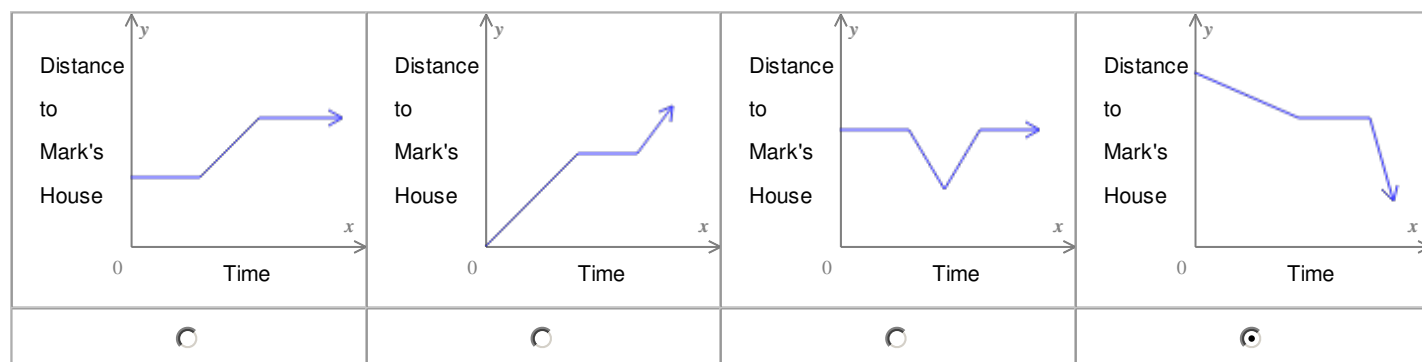
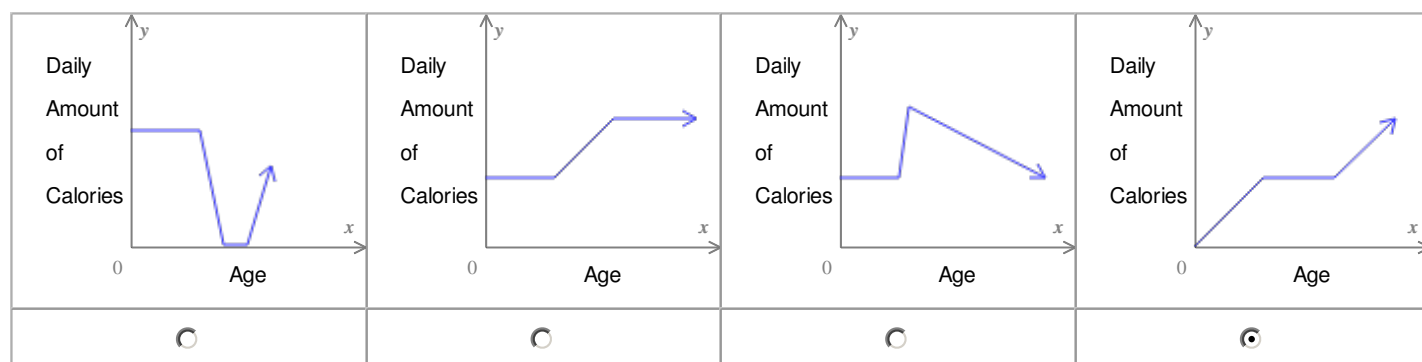$$g\left(\frac{3}{4}\right) = 9$$

$$h(3) = \sqrt{17}$$

**17.**

**18.**

(a) Tommy is delivering a pizza to Mark's house. He drives at a constant speed toward the house until he hits a traffic jam and has to stop for several minutes. After, he starts up again and drives at a faster speed than before.



(b) The daily amount of calories that a rat eats increases steadily from birth to about age 3 months. Then the amount levels off until about age 6 months, when it increases again.



**19.** domain $= \left[-3,\ 3\right)$

range $= \left[-5,\ 3\right)$

**20.** $(-4, 0), (5, 7)$