

Student: Richelle Willis
Date: 3/15/15
Time: 3:59 PM

Instructor: Nancy Hoeft
Course: College Algebra - 14
Book: Tobey: Beginning Algebra, 8e

Assignment: Chapter 7 Homework

1. Give the coordinates for points R, S, T, and V.

The origin is at the center of the graph. Each tick mark is equal to one unit. If a coordinate does not line up exactly on a tick mark, assume it is halfway between.

R:

(Type an ordered pair.)

S:

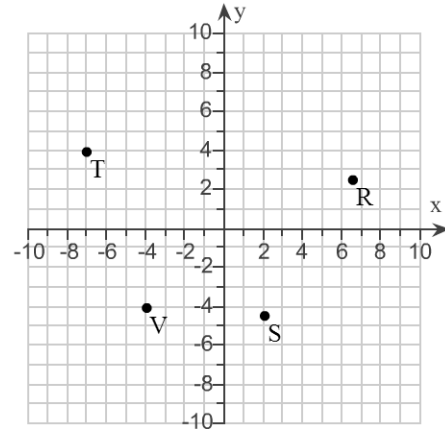
(Type an ordered pair.)

T:

(Type an ordered pair.)

V:

(Type an ordered pair.)



2. Six points are plotted in the figure. Determine the ordered pairs that represent the points.

Point A is represented by the ordered pair . (Type an ordered pair.)

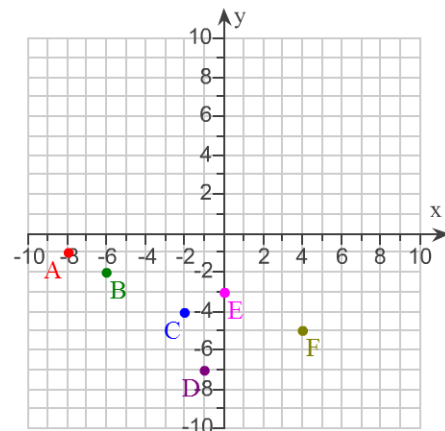
Point B is represented by the ordered pair . (Type an ordered pair.)

Point C is represented by the ordered pair . (Type an ordered pair.)

Point D is represented by the ordered pair . (Type an ordered pair.)

Point E is represented by the ordered pair . (Type an ordered pair.)

Point F is represented by the ordered pair . (Type an ordered pair.)



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3. Find the missing coordinate to complete the ordered-pair solution to the given linear equation.

$$y = 7x + 4$$

(a) $(0, ?)$

(b) $(3, ?)$

(a) $(0, \boxed{})$

(b) $(3, \boxed{})$

-
4. Find the missing coordinate to complete the ordered-pair solution to the given linear equation.

$$4y + 3x = -12$$

(a) $(-4, ?)$

(b) $(?, 3)$

(a) $(-4, \boxed{})$

(b) $(\boxed{}, 3)$

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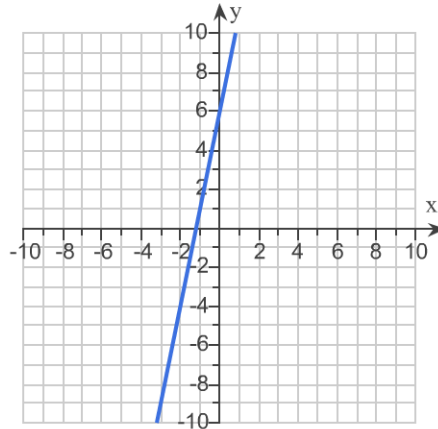
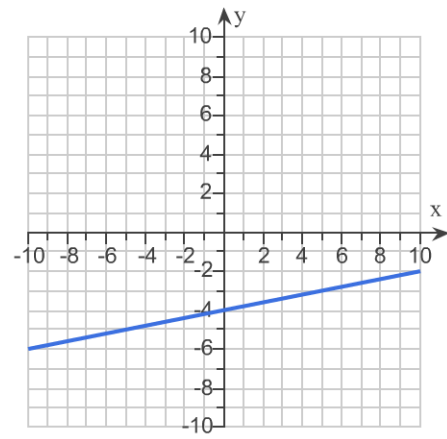
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5. Graph the linear equation.

$$y = \frac{1}{5}x - 4$$

Use the graphing tool to graph the linear equation.



YOU ANSWERED:

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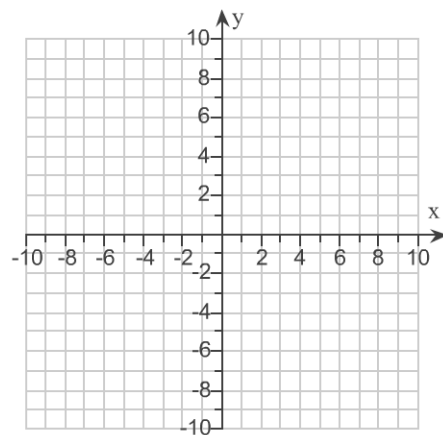
6. Graph the following equation by plotting three points and connecting them. Use a table of values to organize the ordered pairs.

$$2x + 5 + 4y = 13$$

First complete each line of the table so that the ordered pair (x,y) is a solution to the equation.

x	y
0	
4	
-4	

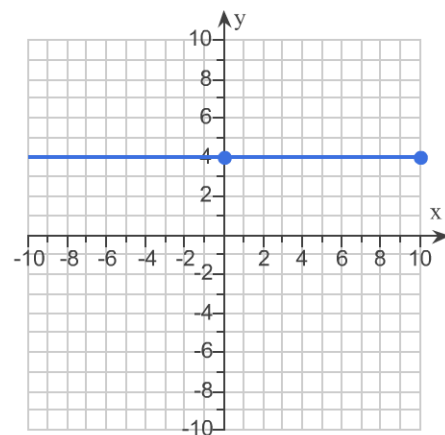
Use the graphing tool to graph the line using two points.



7. Graph the equation. Be sure to simplify the equation before graphing it.

$$-40 + 7y = -3y$$

Use the graphing tool to graph the equation.



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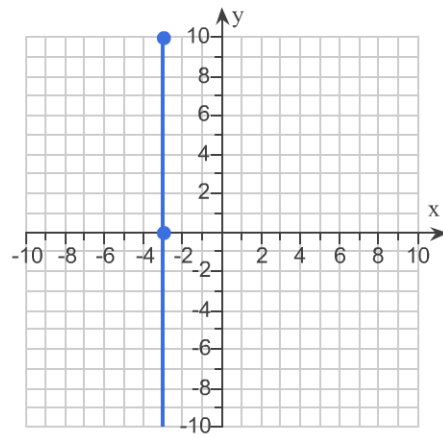
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8. Graph the equation. Be sure to simplify the equation before graphing it.

$$9 + 5x = 2x$$

Use the graphing tool to graph the equation.



9. The number of foreign students enrolled in a certain college is approximated by the equation $S = 8t + 160$, where t is the number of years since 1980, and S is the number of foreign students. Graph the equation for $t = 0, 15$.

Find S when $t = 0$.

$$S = \boxed{}$$

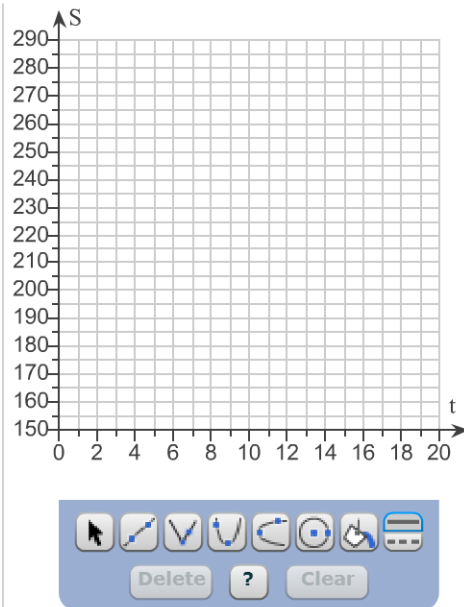
Find S when $t = 15$.

$$S = \boxed{}$$

Graph the line that goes through the points.



Click to
enlarge
graph



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10. Find the slope of the straight line that passes through the following pair of points.

$$(4, -4) \text{ and } (-5, -4)$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ☒ A. The slope is .
(Simplify your answer.)
- ☐ B. The slope is undefined.

11. Find the slope of the straight line that passes through the given pair of points.

$$\left(\frac{3}{4}, -4\right) \text{ and } (3, -8)$$

The slope of the straight line is . (Simplify your answer.)

12. Find the slope and the y-intercept.

$$7x + y - 3 = 0$$

The slope of the line is . (Simplify your answer.)

The y-intercept of the line is . (Type an ordered pair.)

13. Find the slope and the y-intercept.

$$y = -\frac{2}{9}x - \frac{2}{9}$$

Slope = (Simplify your answer.)

y-intercept = (Type an ordered pair. Simplify your answer.)

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14. Write the equation of the line in slope-intercept form.

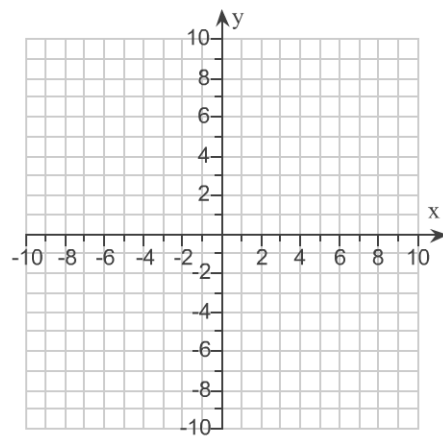
$$m = \frac{5}{9}, \text{ y-intercept } (0,9)$$

The equation of the line in slope-intercept form is .

(Type an equation. Use integers or fractions for any numbers in the equation. Simplify your answer.)

15. Use the slope-intercept form to graph the equation $y = -\frac{4}{3}x - 1$.

Use the graphing tool to graph the line. Use the slope and y-intercept when drawing the line.



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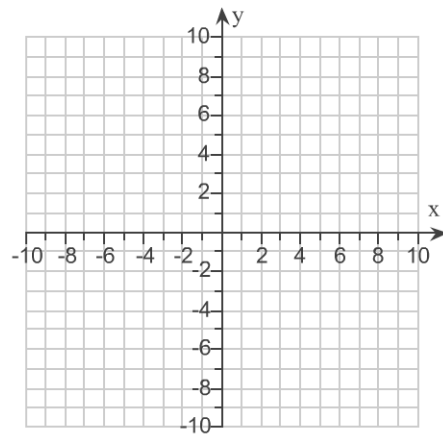
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16. Graph the line.

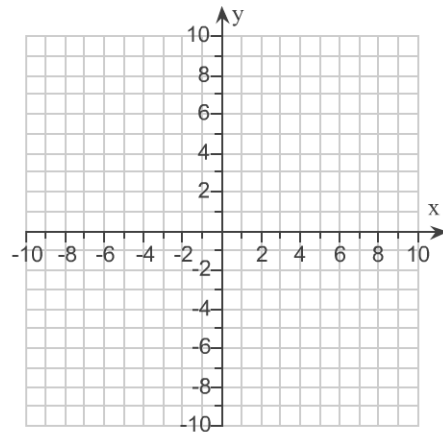
$$y + 6x = 1$$

Use the graphing tool to graph the equation.



17. Use the slope-intercept form to graph the equation $y = 7x$.

Use the graphing tool to graph the line. Use the slope and y-intercept when drawing the line.



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18. A line has a slope of $\frac{7}{2}$.

- (a) What is the slope of the line parallel to it?
(b) What is the slope of the line perpendicular to it?

(a) Slope of the line parallel = (Simplify your answer.)

(b) Slope of the perpendicular line = (Simplify your answer.)

19. It is projected that one of the fastest-growing occupations between 2003 and 2013 will be home health aides. During this 10-year period, the number of home health aides can be approximated by the equation $y = 6(7x + 150)$, where x is the number of years since 2003 and y is the number of employees in thousands.

- (a) Write the equation in slope-intercept form.

- (b) Find the slope and the y-intercept.

The slope is . (Simplify your answer.)

The y-intercept is . (Type an ordered pair.)

- (c) In this specific equation, what is the meaning of the slope? What does it indicate? Choose the correct answer below.

- ☐ A. The slope is the number of years needed to decrease the number of employees by a thousand.
☐ B. The slope is the annual increase in the number of home health aides, in thousands.
☐ C. The slope is the annual decrease in the number of home health aides, in thousands.
☐ D. The slope is the number of years needed to increase the number of employees by a thousand.

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20. Find an equation of the line that has the given slope and passes through the given point.

$$m = -2, (4,7)$$

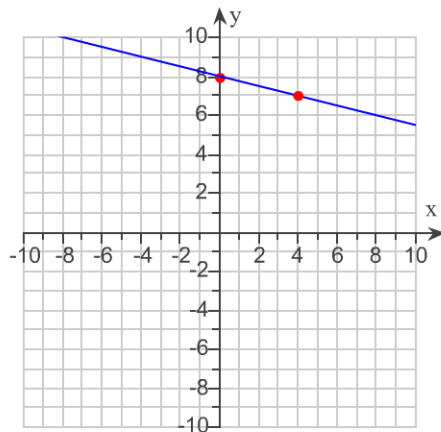
The equation of the line is . (Type your answer in slope-intercept form.)

21. Find an equation of the line that has the slope $m = \frac{1}{6}$ and passes through the point $(6,3)$.

The equation of the line is .

(Simplify your answer. Type your answer in slope-intercept form. Use integers or fractions for any numbers in the equation.)

22. Write an equation of the line in the figure below.



The equation of the line is $y = -\frac{1}{4}x + 8$.

(Simplify your answer. Type your answer in slope-intercept form. Use integers or fractions for any numbers in the equation.)

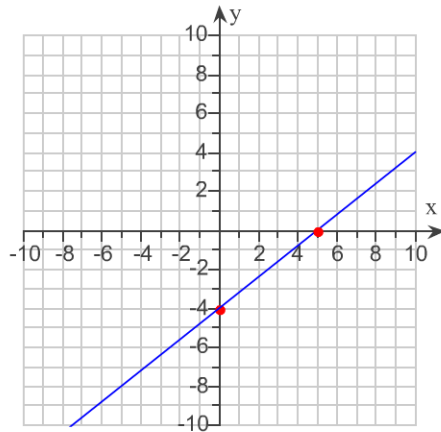
YOU ANSWERED: (8,4)

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23. Write an equation of the line in the figure below.



The equation of the line is $y = \frac{4}{5}x - 4$.

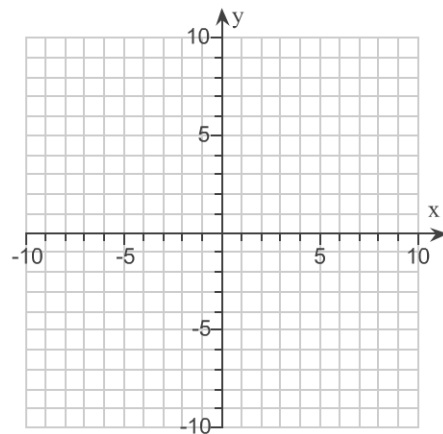
(Simplify your answer. Type your answer in slope-intercept form. Use integers or fractions for any numbers in the equation.)

YOU ANSWERED: $(-4, 5)$

24. Graph the region described by the inequality.

$$4x + 5y < 10$$

Use the graphing tool to graph the region described by the inequality.



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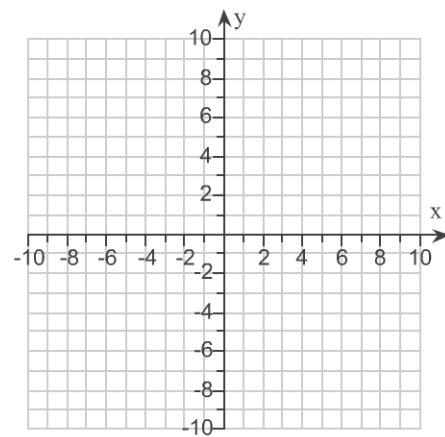
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25. Graph the inequality.

$$x \leq 8$$

Use the graphing tool on the right to graph the inequality.



26. (a) Find the domain and range of the relation. (b) Determine whether the relation is a function.

$$\{(4,8), (12,5), (1,2), (8,2)\}$$

(a) The domain is $\{\square\}$.

The range is $\{\square\}$.

(b) Is the relation a function?

☐ Yes

☐ No

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27. (a) Find the domain and range of the relation. (b) Determine whether the relation is a function.

$$\{(2,55), (5,45), (2,80), (6,50)\}$$

(a) The domain is $\{\square\}$.

The range is $\{\square\}$.

(b) Is the relation a function?

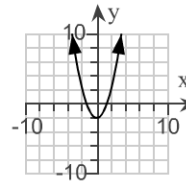
- ☐ Yes
☐ No

28. Graph the equation.

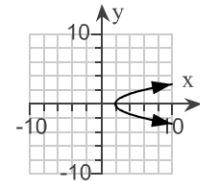
$$y = x^2 + 2$$

Choose the correct graph on the right.

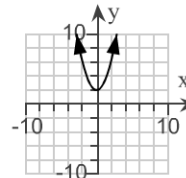
☐ A.



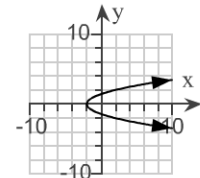
☐ B.



☐ C.



☐ D.

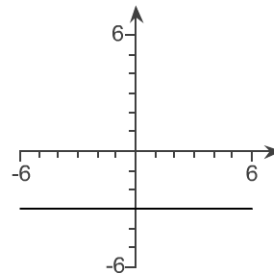


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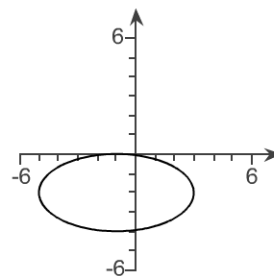
29. Use the vertical line test to determine whether the given graph is the graph of a function.



Is the graph the graph of a function? Choose the correct answer below.

- ☐ No
☐ Yes

30. Use the vertical line test to determine whether the given graph is the graph of a function.



Is the graph the graph of a function? Choose the correct answer below.

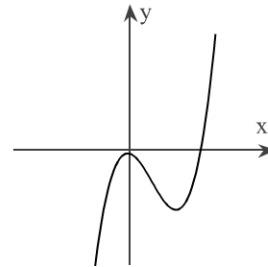
- ☐ Yes
☐ No

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31. Determine whether the relation is a function.



Is the relation a function?

- ☐ No
☐ Yes

32. Given the following functions, find the indicated values.

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

(a) $f(-2)$ (b) $f(0)$ (c) $f(8)$

(a) $f(-2) = \square$

(b) $f(0) = \square$

(c) $f(8) = \square$