

Assessment #12: Linear Equations and Linear Inequalities

1. The Shaffer family started on a trip in their car with 18 gallons of gasoline. The car uses 2 gallons hour. If t represents the number of hours spent driving and g represents the number of gallons of gas car, which equation could be used to calculate the value of g , if $0 \leq t \leq 9$?

☒ $g = 18 - 2t$

☐ $g = 18t - 2$

☐ $g = 2t - 18$

☐ $g = 2t + 18$

2. Which equation represents a line that has a slope of $\frac{1}{2}$ and passes through the point $(-5, 2)$?

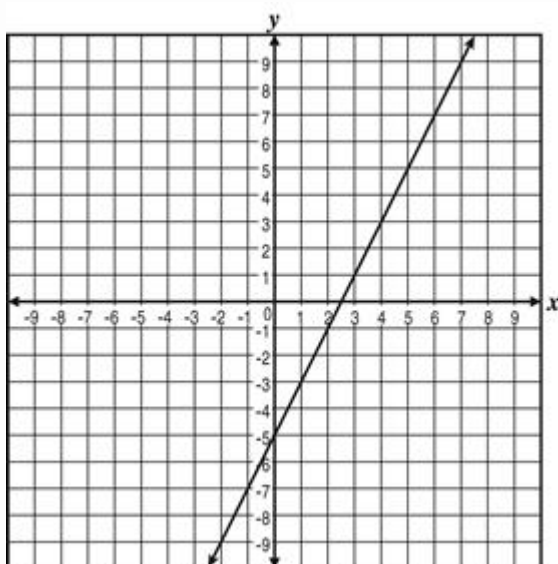
☐ $y - 2 = \frac{1}{2}(x + 5)$

☐ $y + 2 = \frac{1}{2}(x + 5)$

☐ $y - 5 = \frac{1}{2}(x + 2)$

☐ $y + 5 = \frac{1}{2}(x - 2)$

3. The function $f(x) = 2x - 5$ is graphed below.



Which chart contains values that would be included in this function?

☐

x	$f(x)$
-2	1
0	5
2	9
4	13

☐

x	$f(x)$
-2	-9
0	-5
2	-1
4	3

☐

x	$f(x)$
-2	-7
0	-5
2	-3
4	-1

☐

x	$f(x)$
-2	-12
0	-2
2	8
4	18

4. What is the slope of the line that passes through the points $(-2, 6)$ and $(4, -2)$?

☐ $-\frac{4}{3}$

☐ $-\frac{3}{4}$

☐ $\frac{1}{2}$

☐ 2

5. Which of the following is the slope-intercept form of the equation $3y = 2(x - 6)$?

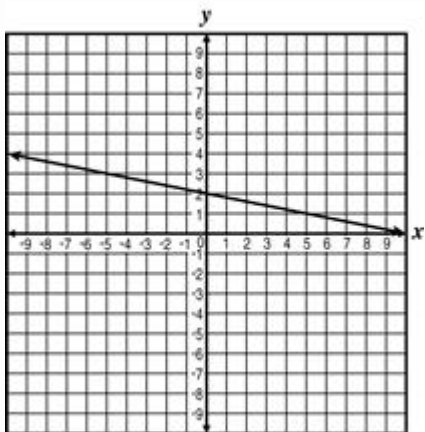
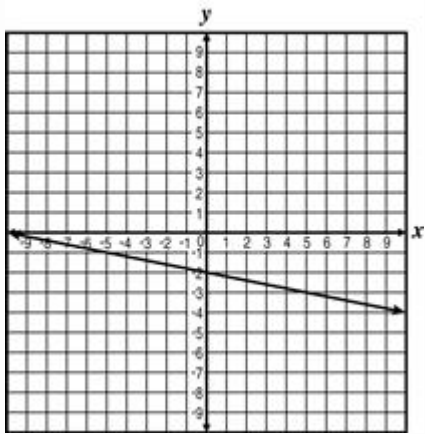
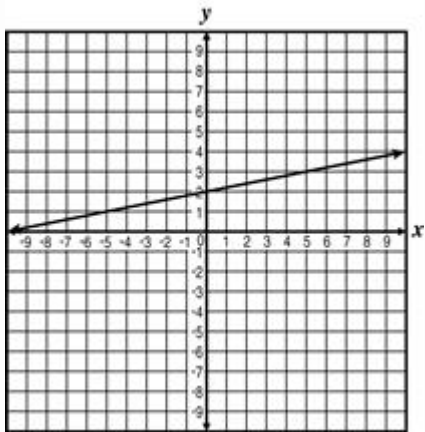
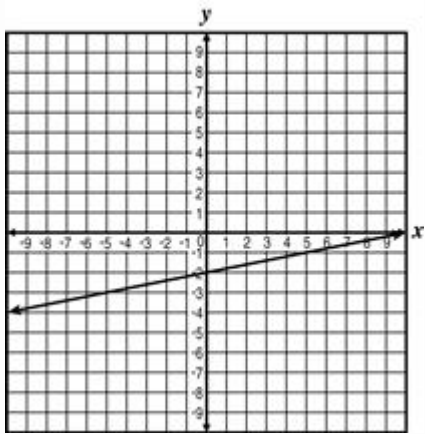
☐ $x = \frac{3}{2}y + 6$

☐ $y = \frac{2}{3}x - 4$

☐ $3y = 2x - 12$

☐ $2x - 3y = 12$

6. Which graph BEST represents $x - 5y = 10$?



7. Line m passes through the point $(4, 1)$ and has a slope of $-\frac{1}{3}$. What is the equation of Line m in st

- ☐ $x + 3y = 13$
 - ☐ $x + 3y = 7$
 - ☐ $3x + y = 7$
 - ☐ $3x + y = 13$
-

8. Which equation represents the line with a slope of $\frac{3}{5}$ and passing through the point $(4, 7)$?

- ☐ $3x + 5y = 47$
 - ☐ $5x + 3y = 41$
 - ☐ $3x - 5y = -23$
 - ☐ $5x - 3y = -1$
-

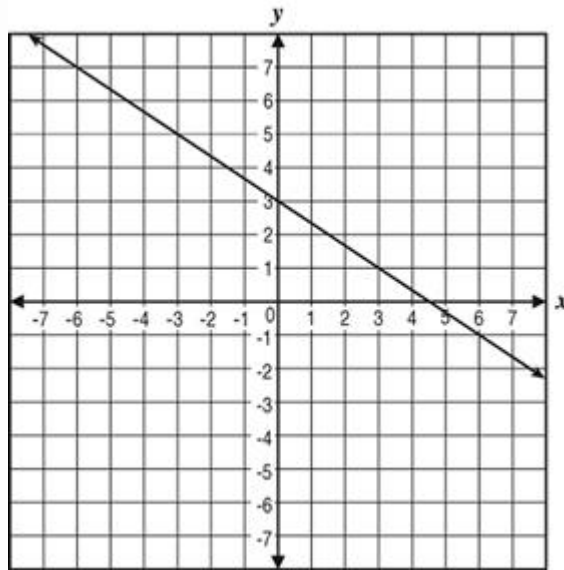
9. What is the equation of the line that contains point $(-2, 1)$ and has a slope of 4?

- ☐ $y = 4x - 9$
 - ☐ $y = 4x - 6$
 - ☐ $y = 4x + 6$
 - ☐ $y = 4x + 9$
-

10. Which set of ordered pairs represents the x - and y -intercepts of the graph of $y = 4x + 12$?

- ☐ $(-3, 0)$ and $(0, -12)$
 - ☐ $(-3, 0)$ and $(0, 12)$
 - ☐ $(3, 0)$ and $(0, -12)$
 - ☐ $(3, 0)$ and $(0, 12)$
-

11. Which of the following equations is graphed below?



- ☐ $2x - 3y = 9$
- ☐ $2x + 3y = 9$
- ☐ $2x - 3y = -9$
- ☐ $2x + 3y = -9$

12. Which point is the y-intercept of the graph of $5x - 3y = 15$?

- ☐ $(-5, 0)$
- ☐ $(3, 0)$
- ☐ $(0, -5)$
- ☐ $(0, 3)$

13. What is the y-intercept of the graph of the equation $6x - 5y + 15 = 0$?

- ☐ $(0, -3)$
 - ☐ $\left(0, -\frac{5}{2}\right)$
 - ☐ $\left(0, \frac{6}{5}\right)$
 - ☐ $(0, 3)$
-

14. What is the equation of the line with a y -intercept of -10 and a slope of 3 ?

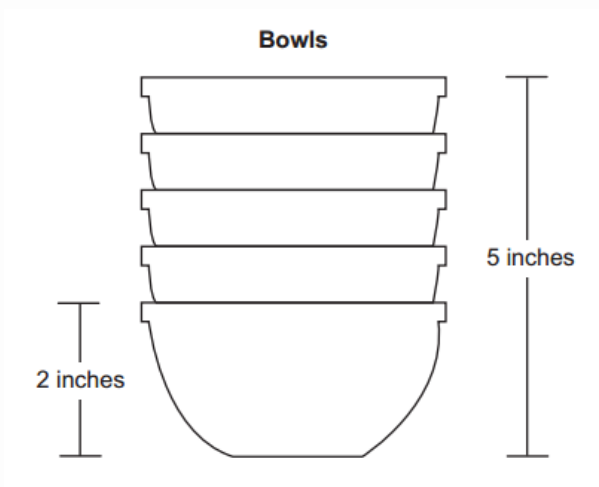
☐ $y = -10x - 3$

☐ $y = -10x + 3$

☐ $y = 3x - 10$

☐ $y = 3x + 10$

15. The diagram below shows 5 identical bowls stacked one inside the other.



The height of 1 bowl is 2 inches. The height of 5 bowls is 5 inches.

Part A:

Write an equation using x and y to find the height of a stack of bowls based on any number of bowls.

Part B:

Describe what the x and y variable represents.

Part C:

Use the equation from Part A to find the number of bowls if the height of the stacked bowls is 12.5 inches.

[illegible]

16. The equation $y = 2x + 1.25$ represents the cab fare charged by Ivan's Cab Company, where y is the fare and x is the number of miles traveled. How would the graph change if $y = 1.25x + 2$ represented the cab fare?

- ☐ The graph would start lower on the y -axis and would be flatter.
- ☐ The graph would start higher on the y -axis and would be flatter.
- ☐ The graph would start lower on the y -axis and would be steeper.
- ☐ The graph would start higher on the y -axis and would be steeper.

Darla's Running Log

Week	Total Number of miles run each week
1	3
2	4.5
3	6
4	7.5
5	9

Assuming that this pattern of running continues for Darla, write an equation that could be used to find the number of miles number of weeks.

To complete a marathon, you must run 26.2 miles. Using the table and/or equation, will Darla be able to complete a marathon training?

[illegible]

18. Which equation represents the line that passes through the point $(-2, 5)$ and has a slope of -3 ?

☐ $y = -3x - 13$

☐ $y = -3x - 1$

☐ $y = -3x + 1$

☐ $y = -3x + 13$

19. What is the y-intercept of the line that passes through the points $(1, 0)$ and $(2, -2)$?

☐ -2

☐ -1

☐ 1

☐ 2

20. Tracey works for a furniture store and earns a salary plus a commission based on sales. The equation $y = 0.05x + 300$ represents y , Tracey's earnings in a week when she sells x dollars' worth of furniture.

$$y = 0.05x + 300$$

What happens to Tracey's weekly earnings as the sales increase by \$800?

☐ increase by \$15.00

☐ increase by \$25.00

☐ increase by \$40.00

☐ increase by \$55.00

21. A straight line passes through points $(1, 15)$ and $(5, 3)$. What is the equation of the line?

☐ $y = -7x + 18$

☐ $y = -3x + 18$

☐ $y = 2x + 18$

☐ $y = 3x + 18$

22. Which equation has a slope of 2 and contains $(-1, -1)$?

☐ $x - 1 = 2(y - 1)$

☐ $x + 1 = 2(y + 1)$

☐ $y - 1 = 2(x - 1)$

☐ $y + 1 = 2(x + 1)$

23. Which equation represents a line that has a slope of $\frac{1}{3}$ and contains the point $(-1, 2)$?

☐ $y + 2 = \frac{1}{3}(x - 1)$

☐ $y + 1 = \frac{1}{3}(x - 2)$

☐ $y - 1 = \frac{1}{3}(x + 2)$

☐ $y - 2 = \frac{1}{3}(x + 1)$