

Summer Assignment Math For College Readiness 2017**Multiple Choice**

Identify the choice that best completes the statement or answers the question.

_____ 1. Find the opposite of the real number $\frac{3}{7}$.

a. $-\frac{7}{3}$

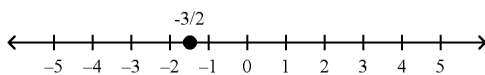
b. $\frac{7}{3}$

c. $\frac{3}{7}$

d. $-\frac{3}{7}$

e. -4

_____ 2. Find the distance from the given real number to 0.



a. $\frac{3}{2}$

b. $-\frac{3}{2}$

c. $-\frac{2}{3}$

d. $\frac{2}{3}$

e. 1

_____ 3. Evaluate: $|-19.75|$

a. -19

b. -19.75

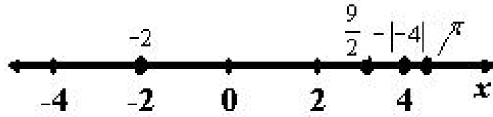
c. 19

d. 19.75

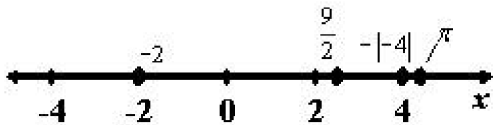
e. 0.75

_____ 4. Plot the numbers $\frac{9}{2}$, π , -2 and $-|-4|$ on the real number line.

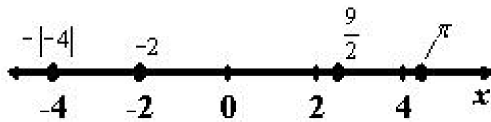
a.



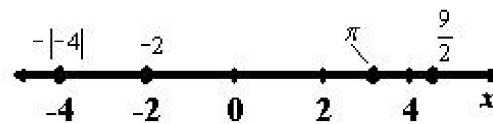
b.



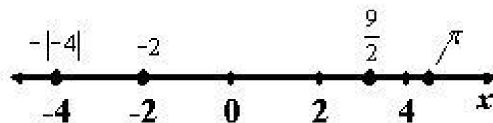
c.



d.



e.



_____ 5. Write the expression $5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5$ in exponential form.

- a. 7^5
- b. 15,625
- c. 5^7
- d. 5^6

_____ 6. What is 5^3 written as repeated multiplication?

- a. 5×3
- b. $5 \times 5 \times 5$
- c. $3 \times 3 \times 3 \times 3 \times 3$
- d. $5 \times 3 \times 5 \times 3 \times 5 \times 3$

_____ 7. What is the value of $8^2 - (3 + 2 \times 2) \times 6$?

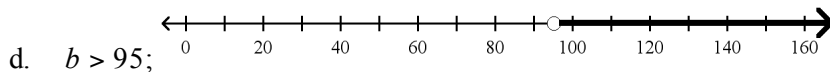
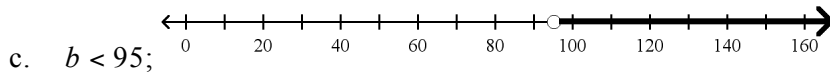
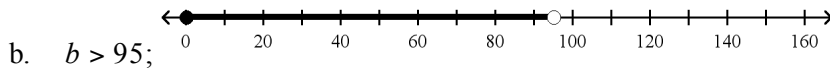
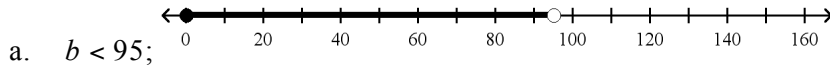
- a. 4
- b. 22
- c. 342
- d. 203

Name: _____

ID: A

- _____ 15. Find the difference $-4 - (-7)$.
a. 11
b. -11
c. -3
d. 3
- _____ 16. Find the product $3 \cdot 5 \cdot (-2)$.
a. -30
b. -16
c. 6
d. 30
- _____ 17. Find the quotient $-168 \div (-14)$.
a. 12
b. 0.083
c. -12
d. -182
- _____ 18. Which decimal is equivalent to $\frac{3}{8}$?
a. 0.83
b. 0.375
c. 0.38
d. 0.625
- _____ 19. Which decimal is equivalent to $\frac{5}{8}$?
a. 0.58
b. 0.85
c. 0.625
d. 0.375
- _____ 20. Find $\sqrt{144}$.
a. 14
b. 15
c. 13
d. 12
- _____ 21. Simplify $2\sqrt{-19 + 44}$.
a. 13.3
b. 44
c. 10
d. 27
- _____ 22. Find the two square roots of $\frac{169}{196}$.
a. $\frac{13}{14}, -\frac{13}{14}$
b. 13, 14
c. $\sqrt{\frac{13}{14}}, -\sqrt{\frac{13}{14}}$
d. 14, 13

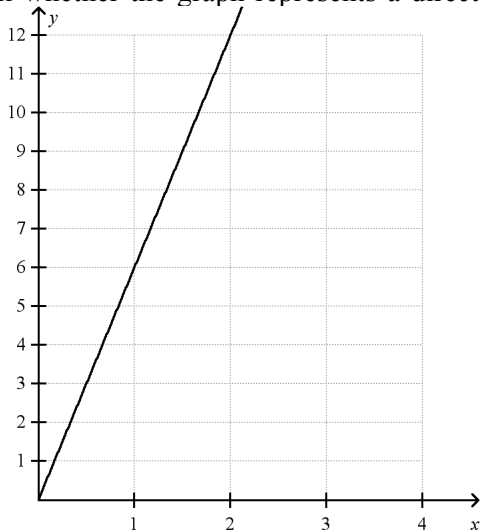
_____ 37. Rajiv is building a bookcase. A shelf on the bookcase can hold up to 95 pounds of books. Write and graph an inequality to represent the situation, where b represents the weight of books on the shelf.



_____ 38. What is the slope of a line that passes through points $(-2, 1)$ and $(2, 4)$?

- | | |
|------------------|------------------|
| a. undefined | c. $\frac{3}{4}$ |
| b. $\frac{5}{4}$ | d. 0 |

_____ 39. Tell whether the graph represents a direct variation. If so, write the equation of direct variation.

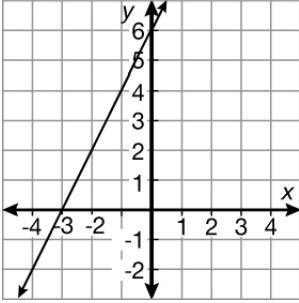


- | | |
|-------------------------------|-----------------------------------|
| a. direct variation; $x = 6y$ | c. direct variation; $y = 6x$ |
| b. not a direct variation | d. direct variation; $y = 6x + 6$ |

_____ 40. A thunderstorm produced 114 lightning strikes in $1\frac{1}{2}$ hours. What was the unit rate of lightning strikes?

- | | |
|------------------------|-------------------------|
| a. 57 strikes per hour | c. 114 strikes per hour |
| b. 76 strikes per hour | d. 228 strikes per hour |

____ 41. What is the slope of the line graphed below?



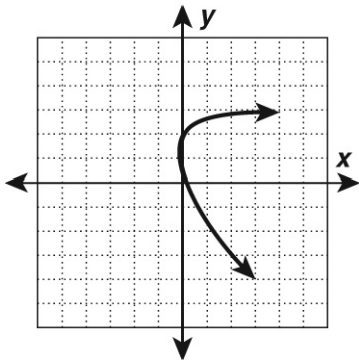
- a. -2
- b. $\frac{1}{2}$
- c. 2
- d. $-\frac{1}{2}$

____ 42. Which is NOT a function?

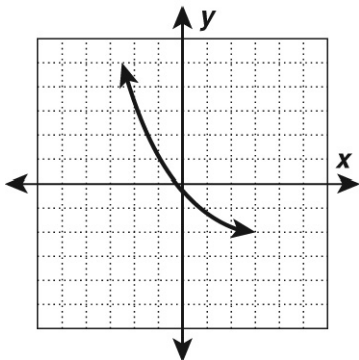
- a. $y - x = 6$
- b. $y = 2x^2$
- c. $x = -2$
- d. $y + x = 12$

____ 43. Which graph represents a function?

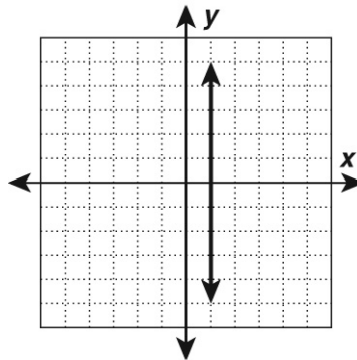
a.



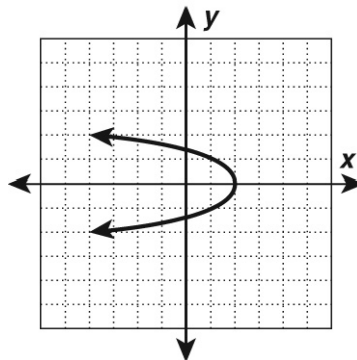
b.



c.



d.



_____ 44. Which of these functions is *not* a linear function?

a. $f(x) = x^2 - x$

c. $f(x) = \frac{x}{3}$

b. $f(x) = 1 - x$

d. $f(x) = \frac{2}{3}x - 2x$

_____ 45. What type of function is $y + 1 = 5x$? Explain.

a. The function is linear because it can be written in the form $y = mx + b$: $y = 5x + 1$.

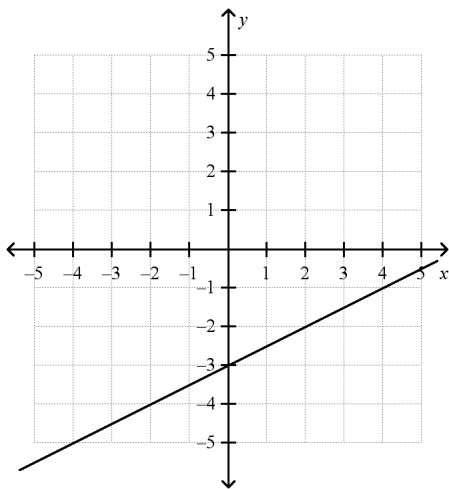
b. The function is linear because it can be written in the form $y = mx + b$: $y = 1x + 5$.

c. The function is NOT linear because it is not written in the form $y = mx + b$.

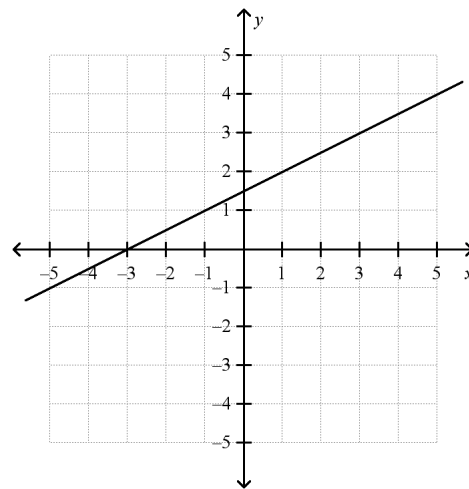
d. The function is NOT linear because it is written in the form $y + b = mx$.

_____ 46. Graph the equation $y = \frac{1}{2}x - 3$.

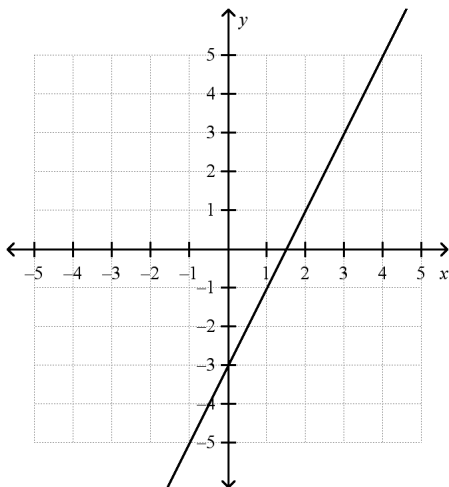
a.



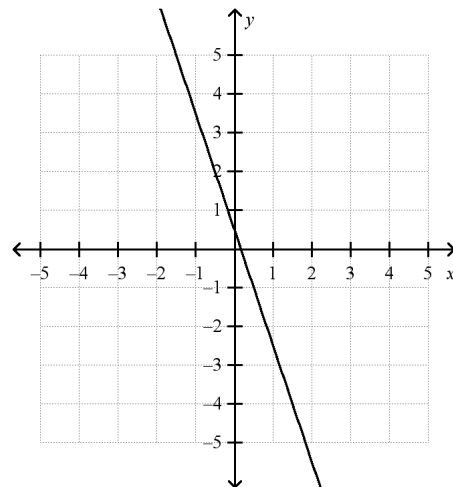
c.



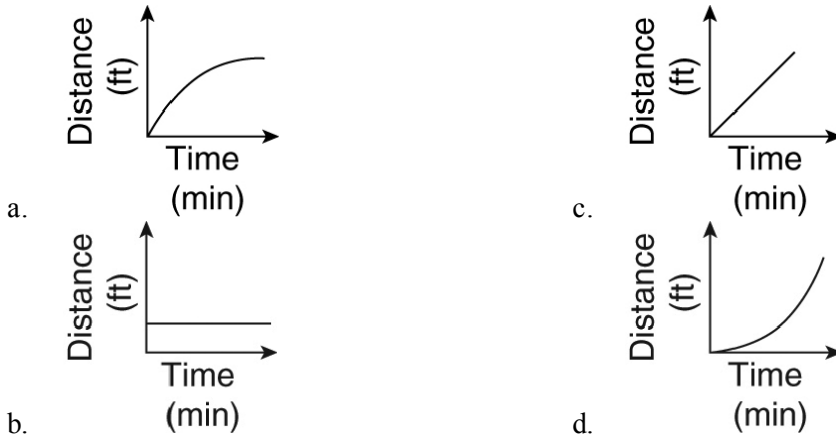
b.



d.

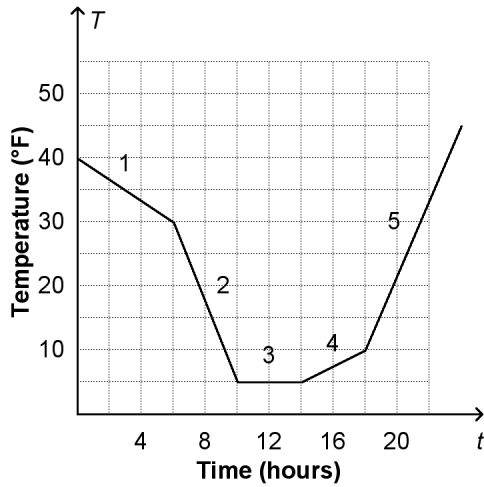


_____ 47. Choose the graph that most likely represents the distance a child travels while riding her bike at a steady speed.



Matching

The graph below shows the temperature T , in degrees Fahrenheit, at time t , in hours past noon. Match each statement with the corresponding segment of the graph that it describes.



- a. 1
- b. 2
- c. 3
- d. 4
- e. 5

- _____ 1. The temperature remains constant.
- _____ 2. The temperature increases quickly.
- _____ 3. The temperature decreases quickly.
- _____ 4. The temperature increases slowly.

_____ 5. The temperature decreases slowly.

Short Answer

1. Louis evaluated the expression $3^5 + 6^3$, but he made a mistake. His work is shown. Identify Louis's mistake and show how to find the correct answer.

$$\begin{aligned} 3^5 + 6^3 &= 5 \times 5 \times 5 + 3 \times 3 \times 3 \times 3 \times 3 \\ &= 854 \end{aligned}$$

2. Find the quotient.

$$\frac{2}{5} \div 1 \frac{2}{3}$$

3. Add. Express your answer in simplest form.

$$\frac{4}{7} + \frac{12}{21}$$

4. Subtract. Express your answer in simplest form.

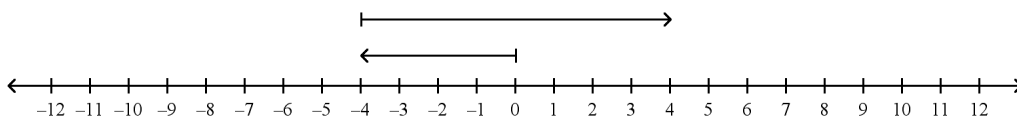
$$9 - 2 \frac{2}{5}$$

5. The cheerleaders held a car wash to raise money for new uniforms. They spent \$12 on soap and \$19 on sponges, rags, and a bucket. It rained the day of the car wash, so the cheerleaders only made \$25.

Write an integer expression that shows their profit or loss. Simplify the expression and explain what the amount means.

6. This morning at 8:00, the temperature was -7°F . Yesterday morning, the temperature was 6°F colder. What was yesterday's temperature?

7. Write the addition expression modeled on the number line. Then find the sum.



8. Multiply. Express your answer in simplest form.

$$\frac{-3}{5} \cdot \frac{-1}{2}$$

9. Simplify. Write your answer in exponential form.

$$\frac{7^2}{7^{-2}}$$

10. Simplify 3^{-2} .

11. Simplify 1^0 .

12. Simplify $(8x^3)^2(2x^2)^3$.

13. Rewrite the expression using positive exponents: $\frac{1}{9x^{-2}y^{-1}}$

14. Write a situation that could be modeled by the expression $x - 12$.

15. The side length of an equilateral triangle is $x + 3$. Write an expression for the perimeter of the triangle.

16. Find an expression for the missing value in this table.

z	10	20	40
	31	41	61

17. Simplify the expression.

$$8 - 4b + (-3b) + 6$$

18. The value of x is 3 more than half the value of y .

- Write an expression for the value of x in terms of y .
- What is the value of x if $y = 7$? Show your work.

19. Write an inequality to represent the situation.

Children under 36 inches in height cannot ride the roller coaster.

20. Nicole is 58 inches tall and has an 87 inch shadow. Julie is standing next to Nicole and has a 99 inch shadow. How tall is Julie?

21. Use the cross products property to solve the proportion.

$$\frac{7}{10} = \frac{x}{7}$$

22. Henry draws a line through the points $(2,6)$ and $(3,2)$. What is the slope of this line?

Name: _____

ID: A

23. Rewrite the equation $2y + 5x = 12$ in slope-intercept form. Then find the slope and y -intercept of the graph of the equation.