



Name

Directions: Show your work for each question for credit. This review will be counted as a quiz for the 3rd marking period. Please use your notes, textbook, tests, quizzes, and previous spiral review assignments to help you solve the following problems.

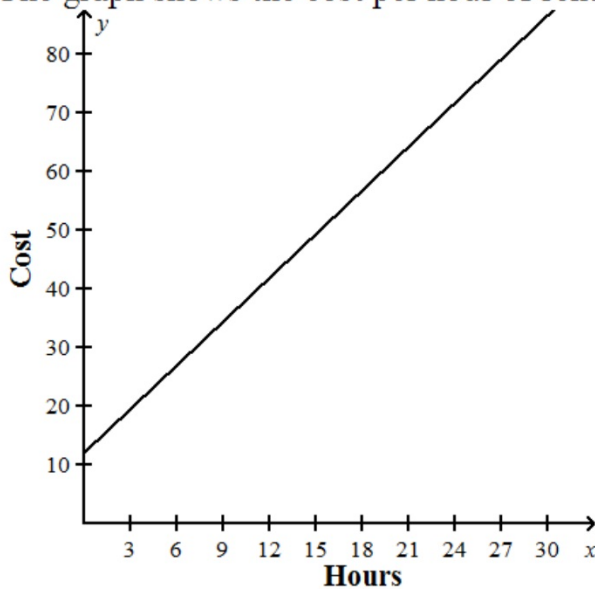
1. The cost C , in dollars, for advertising on a social networking website is proportional to the number n of clicks on the advertisement. Suppose a business is charged \$45 for 180 clicks on its advertisements. What is the slope of the line that represents the relationship between cost and clicks?
- a. 4
 - b. 1
 - c. 0.25
 - d. The slope cannot be determined.

2. What equation could be written for this table?

x	10	9	6	5
y	4	3	0	-1

- a. $x - y = 6$
- b. $y = 3x$
- c. $x + y = 14$
- d. $y = 0x$

3. The graph shows the cost per hour of renting a powertool.



- a. linear and proportional relationship
- b. linear, non-proportional relationship
- c. non-linear relationship
- d. cannot be determined

4. Which of the following equations is *not* linear?

- a. $13x - 12y = 82$
- b. $-6x = y$
- c. $7 = y$
- d. $y = x^2 - 2$



5. What is a function?

- a. A function assigns to each input exactly one output.
- b. A function assigns to each input at least one output.
- c. A function assigns outputs to inputs.
- d. A function assigns to each input more than one output.

6. Which expression is equivalent to $y^8 \cdot y^4$?

- (a) y^{32} (b) $y^{32} \div y^4$ (c) $y^{14} \div y^2$ (d) y^2

7. What is the slope of the linear function represented by the table below?

x	-3	0	3	6	9
y	-4	-3	-2	-1	0

- A. $\frac{1}{3}$ B. 3 C. -3 D. $-\frac{1}{3}$

8. Which shows a pair of expressions that are equivalent?

- A. $(p^2)^3$ and p^5
- B. $f^8 \div f^4$ and f^2
- C. $q^4 + q^2$ and q^6
- D. $y^2 \cdot y^2 \cdot y$ and y^5

9. Simplify $(4)^2 \cdot (4)^{-4}$

- A) 4^{-6} C) $(16)^{-8}$
B) $\frac{1}{16}$ D) 16

10. Which is equivalent to $\left(\frac{1}{4}\right)^{-2}$

A) 16

C) $\frac{1}{8}$

B) $\frac{1}{16}$

D) $-\frac{1}{16}$

11. The planet Milano is approximately 8×10^8 miles from the sun. The distance between the sun and Mars is approximately 2×10^{10} miles. About how many times farther from the Sun is Mars than Milano ?

A) 4

C) 25

B) 40

D) 0.25

12. How does the solution of $\frac{1}{3}(x-9) = 2x+7$ compare to the solution of $\frac{4}{3}(x+4) = -4x$?

a. The solution of $\frac{1}{3}(x-9) = 2x+7$ is greater than the solution of $\frac{4}{3}(x+4) = -4x$.

b. The solution of $\frac{1}{3}(x-9) = 2x+7$ is less than the solution of $\frac{4}{3}(x+4) = -4x$.

c. The solutions are equal to each other.

d. The relationship cannot be determined.

13. What is the solution to the equation below ?

$$2(x + 3) = 2x + 5$$

- A. 2
- B. 0
- C. no solution
- D. infinitely many solutions

14. Which expression is equivalent to $8^{-4} \times 8^{15}$?

- A) 8^{-19}
- B) $8^{15} \div 8^4$
- C) 8^{-60}
- D) 64^{11}

15. Where do the lines modeled by the equations $y = \frac{6}{5}x + 1$ and $y = \frac{6}{5}x + 6$ intersect?

- A. (0,1)
- B. (6,5)
- C. The lines do not intersect
- D. The lines are the same