

Algebra 1 Quick-Quiz-11252024

Question 1.

What is the solution of the equation $2(x + 2)^2 - 4 = 28$?

- (1) 6, only
- (2) 2, only
- (3) 2 and -6
- (4) 6 and -2

Use your graphing software to check your answer.

Question 2

A store sells self-serve frozen yogurt sundaes. The function $C(w)$ represents the cost, in dollars, of a sundae weighing w ounces. An appropriate domain for the function would be

- (1) integers
- (2) rational numbers
- (3) nonnegative integers
- (4) nonnegative rational numbers

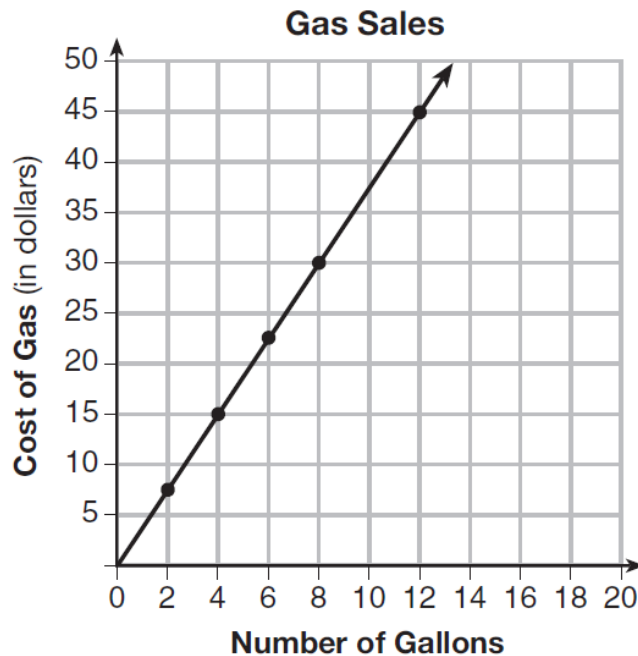
Question 3. Use your graphing software to check your answer.

In the function $f(x) = (x - 2)^2 + 4$, the minimum value occurs when x is

- (1) -2
- (2) 2
- (3) -4
- (4) 4

Question 4.

The graph below was created by an employee at a gas station.



Which statement can be justified by using the graph?

- (1) If 10 gallons of gas was purchased, \$35 was paid.
- (2) For every gallon of gas purchased, \$3.75 was paid.
- (3) For every 2 gallons of gas purchased, \$5.00 was paid.
- (4) If zero gallons of gas were purchased, zero miles were driven.

Question 5.

Given the following expressions:

$$\begin{array}{ll} \text{I. } -\frac{5}{8} + \frac{3}{5} & \text{III. } (\sqrt{5}) \cdot (\sqrt{5}) \\ \text{II. } \frac{1}{2} + \sqrt{2} & \text{IV. } 3 \cdot (\sqrt{49}) \end{array}$$

Which expression(s) result in an irrational number?

- | | |
|---------------|-----------------|
| (1) II, only | (3) I, III, IV |
| (2) III, only | (4) II, III, IV |

Question 6.

Michael borrows money from his uncle, who is charging him simple interest using the formula $I = Prt$. To figure out what the interest rate, r , is, Michael rearranges the formula to find r . His new formula is r equals

- | | |
|---------------------|--------------------|
| (1) $\frac{I-P}{t}$ | (3) $\frac{I}{Pt}$ |
| (2) $\frac{P-I}{t}$ | (4) $\frac{Pt}{I}$ |

Question 7.

Which equation is equivalent to $y - 34 = x(x - 12)$?

- | | |
|---------------------------|-------------------------|
| (1) $y = (x - 17)(x + 2)$ | (3) $y = (x - 6)^2 + 2$ |
| (2) $y = (x - 17)(x - 2)$ | (4) $y = (x - 6)^2 - 2$ |

Question 8. Use your graphing software to check your answer.

The zeros of the function $f(x) = 2x^2 - 4x - 6$ are

- (1) 3 and -1
- (2) 3 and 1
- (3) -3 and 1
- (4) -3 and -1

Question 9.

When factored completely, $x^3 - 13x^2 - 30x$ is

- (1) $x(x + 3)(x - 10)$
- (2) $x(x - 3)(x - 10)$
- (3) $x(x + 2)(x - 15)$
- (4) $x(x - 2)(x + 15)$

Question 10.

A construction company uses the function $f(p)$, where p is the number of people working on a project, to model the amount of money it spends to complete a project. A reasonable domain for this function would be

- (1) positive integers
- (2) positive real numbers
- (3) both positive and negative integers
- (4) both positive and negative real numbers

Bonus Question

Question 11

Which function is shown in the table below?

x	f(x)
-2	$\frac{1}{9}$
-1	$\frac{1}{3}$
0	1
1	3
2	9
3	27

(1) $f(x) = 3x$

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

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

(4) $f(x) = 3^x$