Algebra 1 Quick-Quiz-11152023

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

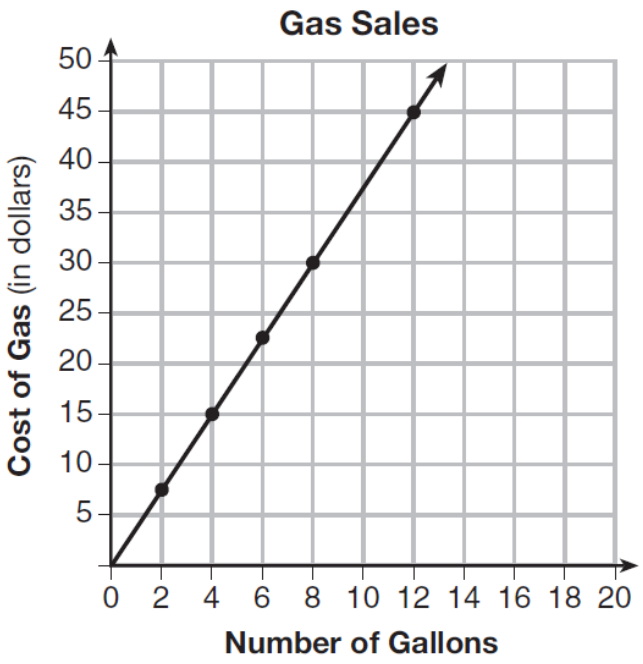
(2) 2

(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:

I. $-\frac{5}{8}+\frac{3}{5}$

II. $\frac{1}{2}+\sqrt{2}$

III. $\left(\sqrt{5}\right)\cdot\left(\sqrt{5}\right)$

IV. $3\cdot\left(\sqrt{49}\right)$

Which expression(s) result in an irrational number?

(1) II, only

(2) III, only

(3) I, III, IV

(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) $\frac{I-P}{t}$

(2) $\frac{P-I}{t}$

(3) $\frac{I}{Pt}$

(4) $\frac{Pt}{I}$

Question 7.

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

(1) $y = (x - 17)(x + 2)$

(2) $y = (x - 17)(x - 2)$

(3) $y = (x - 6)^2 + 2$

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