Algebra 1 Quick Quiz 03232023

Question 1

A high school club is researching a tour package offered by the Island Kayak Company. The company charges $35 per person and $245 for the tour guide. Which function represents the total cost, $C(x)$, of this kayak tour package for x club members?

(1) $C(x) = 35x$ (3) $C(x) = 35(x + 245)$

(2) $C(x) = 35x + 245$ (4) $C(x) = 35 + (x + 245)$

Question 2

The expression $3(x + 4) - (2x + 7)$ is equivalent to

(1) $x + 5$ (3) $x - 3$

(2) $x - 10$ (4) $x + 11$

Question 3.

The equation below shows the profit, p, from selling n cups of lemonade.

$$p = 2n - 10$$

Which of the following best describes the relationship between p and n?

A. As n increases, p decreases.

B. As n increases, p increases.

C. As n increases, p stays the same.

D. As n increases, p sometimes increases and sometimes decreases.

Question 4.

A function is defined as $K(x) = 2x^2 - 5x + 3$. The value of $K(-3)$ is

(1) 54   (3) 0

(2) 36   (4) -18

Question 5.

Shelley spends $10 on hamburger meat every week.

- Let x represent the price, in dollars, for 1 pound of hamburger meat.

- Let y represent the number of pounds of hamburger meat Shelley buys.

Which equation shows the relationship between x and y?

A. $y = 10x$

B. $y = 10 - x$

C. $y = \dfrac{x}{10}$
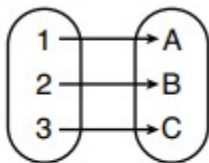
D. $y = \dfrac{10}{x}$

Question 6.

Look at this equation.
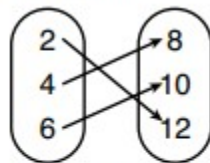
$$3(x + 6) - 5(x - 2) = 10$$

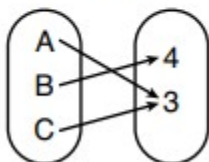What value of x makes the equation true?

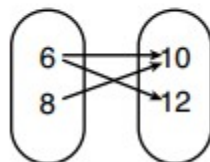Question 7.

Which relation is *not* a function?

(1)

(3)

(2)

(4)

Question 8.

The value of Tony's investment was $1140 on January 1st. On this date three years later, his investment was worth $1824. The average rate of change for this investment was $19 per

(1) day   (3) quarter

(2) month   (4) year

Question 9.

The solution to $3(x - 8) + 4x = 8x + 4$ is

(1) 12   (3) -12

(2) 28   (4) -28

Question 10.

An ice cream shop sells ice cream cones, c, and milkshakes, m. Each ice cream cone costs $1.50 and each milkshake costs $2.00. Donna has $19.00 to spend on ice cream cones and milkshakes. If she must buy 5 ice cream cones, which inequality could be used to determine the maximum number of milkshakes she can buy?

(1) $1.50(5) + 2.00m \geq 19.00$ (3) $1.50c + 2.00(5) \geq 19.00$

(2) $1.50(5) + 2.00m \leq 19.00$ (4) $1.50c + 2.00(5) \leq 19.00$

Bonus Question

Question 11

The graph shows the function $y = g(x)$, where $g(x)$ represents a transformation of $f(x) = x^2$.
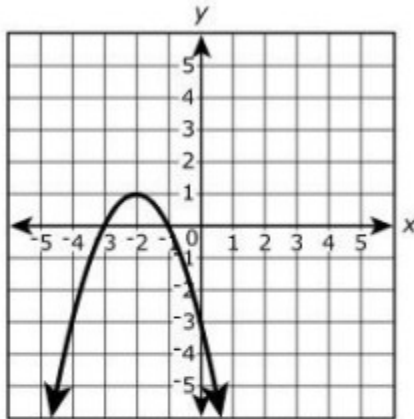
What is the equation for $g(x)$?

○ A. $g(x) = (x - 2)^2 - 1$

○ B. $g(x) = (x + 2)^2 - 1$

○ C. $g(x) = -(x - 2)^2 + 1$

○ D. $g(x) = -(x + 2)^2 + 1$