

Algebra 1 Quick-Quiz-03192024

Question 1.

Which value of  $x$  makes the expression  $\frac{x+4}{x-3}$  undefined?

- (1)  $-4$
- (2)  $-3$
- (3)  $3$
- (4)  $0$

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

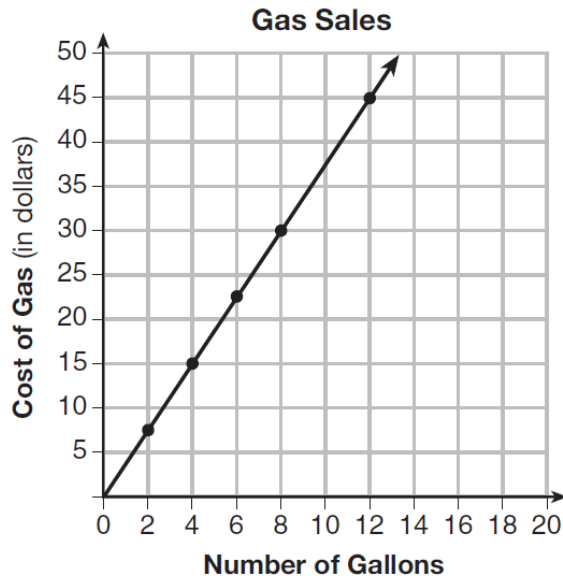
Question 3.

What is the slope of the line that passes through the points  $(-6,1)$  and  $(4,-4)$ ?

- (1)  $-2$
- (2)  $2$
- (3)  $-\frac{1}{2}$
- (4)  $\frac{1}{2}$

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.

Students in a ninth grade class measured their heights,  $h$ , in centimeters. The height of the shortest student was 155 cm, and the height of the tallest student was 190 cm. Which inequality represents the range of heights?

- |                           |                                  |
|---------------------------|----------------------------------|
| (1) $155 < h < 190$       | (3) $h \geq 155$ or $h \leq 190$ |
| (2) $155 \leq h \leq 190$ | (4) $h > 155$ or $h < 190$       |

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.

Mr. Turner bought  $x$  boxes of pencils. Each box holds 25 pencils. He left 3 boxes of pencils at home and took the rest to school. Which expression represents the total number of pencils he took to school?

(1)  $22x$

(3)  $25 - 3x$

(2)  $25x - 3$

(4)  $25x - 75$

Question 8.

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

(1) 3 and  $-1$

(3)  $-3$  and 1

(2) 3 and 1

(4)  $-3$  and  $-1$

Question 9.

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)  $f(x) = 3^x$

Question 10.

Kathy plans to purchase a car that depreciates (loses value) at a rate of 14% per year. The initial cost of the car is \$21,000. Which equation represents the value,  $v$ , of the car after 3 years?

(1)  $v = 21,000(0.14)^3$

(2)  $v = 21,000(0.86)^3$

(3)  $v = 21,000(1.14)^3$

(4)  $v = 21,000(0.86)(3)$

## Bonus Question

### Question 11a.

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

### Question 11b.

Consider the graph of the equation  $y = ax^2 + bx + c$ , when  $a \neq 0$ . If  $a$  is multiplied by 3, what is true of the graph of the resulting parabola?

- (1) The vertex is 3 units above the vertex of the original parabola.
- (2) The new parabola is 3 units to the right of the original parabola.
- (3) The new parabola is wider than the original parabola.
- (4) The new parabola is narrower than the original parabola.