Algebra 1 Quick quiz 02242023

Question 1.

The equation for the volume of a cylinder is $V = \pi r^2 h$. The positive value of r, in terms of h and V, is

$$(1) \quad r = \sqrt{\frac{V}{\pi h}}$$

$$(3) r = 2V\pi h$$

(2)
$$r = \sqrt{V\pi h}$$

$$(4) \quad r = \frac{V}{2\pi}$$

Question 2.

Which equation has the same solutions as $x^2 + 6x - 7 = 0$?

$$(1) (x + 3)^2 = 2$$

$$(3) (x-3)^2 = 16$$

$$(2) (x - 3)^2 = 2$$

$$(4) (x + 3)^2 = 16$$

Question 3.

Two functions, y = |x - 3| and 3x + 3y = 27, are graphed on the same set of axes. Which statement is true about the solution to the system of equations?

- (1) (3,0) is the solution to the system because it satisfies the equation y=|x-3|.
- (2) (9,0) is the solution to the system because it satisfies the equation 3x + 3y = 27.
- (3) (6,3) is the solution to the system because it satisfies both equations.
- (4) (3,0), (9,0), and (6,3) are the solutions to the system of equations because they all satisfy at least one of the equations.

Question 4.

An astronaut drops a rock off the edge of a cliff on the Moon. The distance, d(t), in meters, the rock travels after t seconds can be modeled by the function $d(t) = 0.8t^2$. What is the average speed, in meters per second, of the rock between 5 and 10 seconds after it was dropped?

(1) 12

(3) 60

(2) 20

(4) 80

Question 5.

Which of the equations below have the same solution?

I.
$$10(x-5) = -15$$

II.
$$4 + 2(x - 2) = 9$$

III.
$$\frac{1}{3}x = \frac{3}{2}$$

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

Question 6.

In 2013, the United States Postal Service charged \$0.46 to mail a letter weighing up to 1 oz. and \$0.20 per ounce for each additional ounce. Which function would determine the cost, in dollars, c(z), of mailing a letter weighing z ounces where z is an integer greater than 1?

$$(1) c(z) = 0.46z + 0.20$$

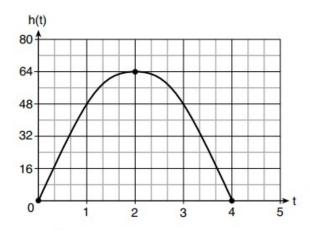
(3)
$$c(z) = 0.46(z - 1) + 0.20$$

$$(2) \ c(z) = 0.20z + 0.46$$

$$(4) c(z) = 0.20(z - 1) + 0.46$$

Question 7.

The diagram below shows the graph of h(t), which models the height, in feet, of a rocket t seconds after it was shot into the air.



The domain of h(t) is

(1)(0,4)

(3)(0,64)

(2)[0,4]

(4) [0,64]

Question 8.

A function is shown in the table below.

х	f(x)
-4	2
-1	-4
0	-2
3	16

If included in the table, which ordered pair, (-4,1) or (1,-4), would result in a relation that is no longer a function? Explain your answer.

Question 9.

Subtract $5x^2 + 2x - 11$ from $3x^2 + 8x - 7$. Express the result as a trinomial.

Question 10.

Given f(x) = 3x - 5, which statement is true?

$$(1) f(0) = 0$$

$$(3) f(4) = 3$$

$$(2) f(3) = 4$$

$$(4) f(5) = 0$$

Bonus Question

Question 11

Graph the solution set of 2x + y > 6.

Graph the solution set of the linear inequality in the coordinate plane by

- selecting the "line" button to graph the line and choosing the line style,
- selecting the "solution set" button to select the desired region.

