Algebra 1 Quick-Quiz-03072024

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

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

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

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

Question 2.

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

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

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

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

(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
(2) 20
(3) 60
(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
(2) I and III, only
(3) II and III, only
(4) I, II, and III

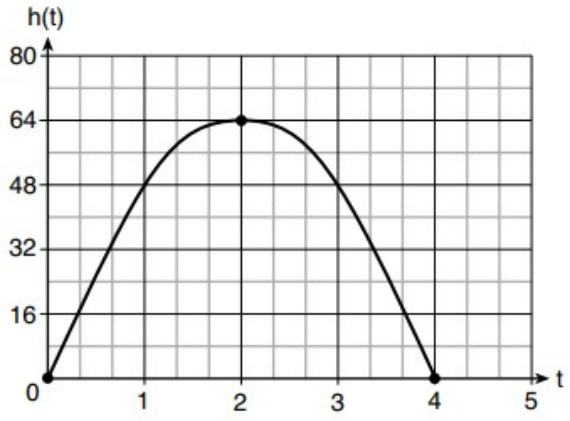
Question 6.

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) $c(z) = 0.46z + 0.20$
(2) $c(z) = 0.20z + 0.46$
(3) $c(z) = 0.46(z - 1) + 0.20$
(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)
(2) [0,4]
(3) (0,64)
(4) [0,64]

Question 8.

A function is shown in the table below.

x	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) $f(0) = 0$

(2) $f(3) = 4$

(3) $f(4) = 3$

(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.