Algebra Quick-Quiz-03032022

Question 1.

The solution to the equation $x^2 - 6x = 0$ is

(1) 0, only
(2) 6, only
(3) 0 and 6
(4) $\pm\sqrt{6}$

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.

What is an equation of the line that passes through the point (3,–1) and has a slope of 2?

(1) $y = 2x + 5$
(2) $y = 2x - 1$
(3) $y = 2x - 4$
(4) $y = 2x - 7$

Question 4.

The ages of three brothers are consecutive even integers. Three times the age of the youngest brother exceeds the oldest brother's age by 48 years. What is the age of the *youngest* brother?

(1) 14
(2) 18
(3) 22
(4) 26

Question 5.

When factored completely, the expression $p^4 - 81$ is equivalent to

(1) $(p^2 + 9)(p^2 - 9)$

(2) $(p^2 - 9)(p^2 - 9)$

(3) $(p^2 + 9)(p + 3)(p - 3)$

(4) $(p + 3)(p - 3)(p + 3)(p - 3)$

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

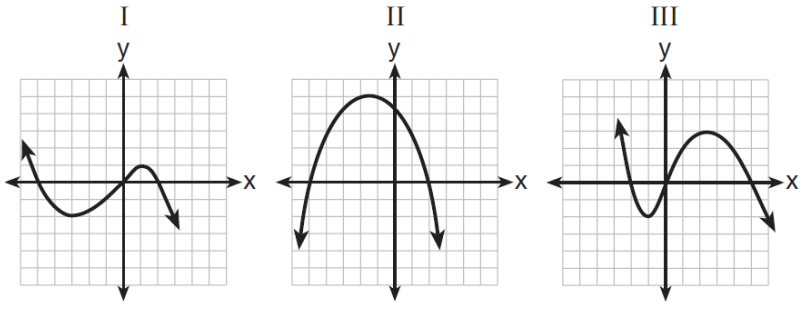
(2) $c(z) = 0.20z + 0.46$

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

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

Question 7.

A polynomial function contains the factors x, $x - 2$, and $x + 5$. Which graph(s) below could represent the graph of this function?



(1) I, only

(2) II, only

(3) I and III

(4) I, II, and III

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.

The sum of two numbers is 47, and their difference is 15. What is the larger number?

(1) 16
(2) 31
(3) 32
(4) 36

Bonus Question

Question 11a.

Chad complained to his friend that he had five equations to solve for homework. Are all of the homework problems equations? Justify your answer.

Math Homework

1. $3x^2 \cdot 2x^4$
2. $5 - 2x = 3x$
3. $3(2x + 7)$
4. $7x^2 + 2x - 3x^2 - 9$
5. $\frac{2}{3} = \frac{x+2}{6}$

Name *Chad*

Question 11b.

What is $\sqrt{32}$ expressed in simplest radical form?

(1) $16\sqrt{2}$

(2) $4\sqrt{2}$

(3) $4\sqrt{8}$

(4) $2\sqrt{8}$