Algebra 1 Quick-Quiz-02062024

Question 1.

The table below shows a relationship between x and y that is **not** a function.

x	y
3	6
4	6
5	7
5	8
6	10
10	9
11	11

Write one ordered pair that can be removed from the table to make the relationship between x and y a function.

Question 2

Which system of linear equations has the same solution as the one shown below?

$$x - 4y = -10$$
$$x + y = 5$$

(1) $5x = 10$
$x + y = 5$

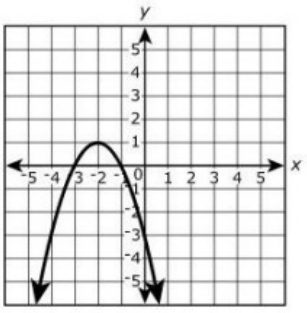
(2) $-5y = -5$
$x + y = 5$

(3) $-3x = -30$
$x + y = 5$

(4) $-5y = -5$
$x - 4y = -10$

Question 3.

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



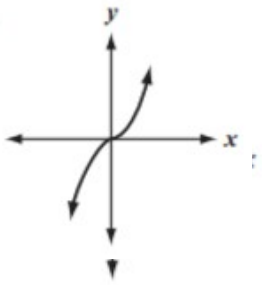
What is the equation for $g(x)$?

- A. $g(x) = (x-2)^2 - 1$
- B. $g(x) = (x+2)^2 - 1$
- C. $g(x) = -(x-2)^2 + 1$
- D. $g(x) = -(x+2)^2 + 1$

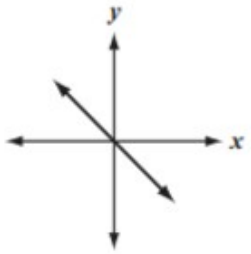
Question 4.

Which of the following graphs shows a linear function?

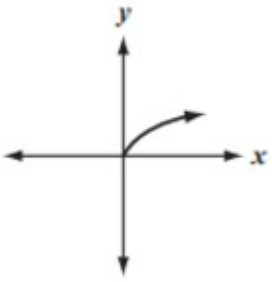
A.



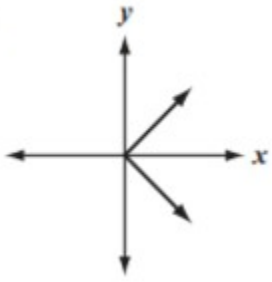
B.



C.

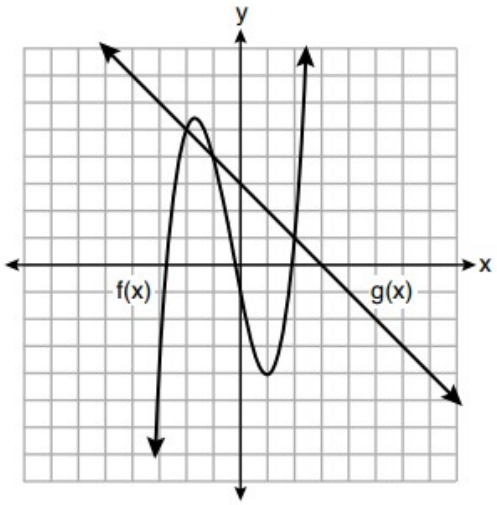


D.



Question 5.

The functions $f(x)$ and $g(x)$ are graphed on the set of axes below.



For which value of x is $f(x) \neq g(x)$?

(1) -1

(2) 2

(3) 3

(4) -2

Question 6.

Which ordered pair is the solution of the system of equations below?

$$x + 2y = 6$$
$$3x + 8y = 4$$

A. (2, 2)

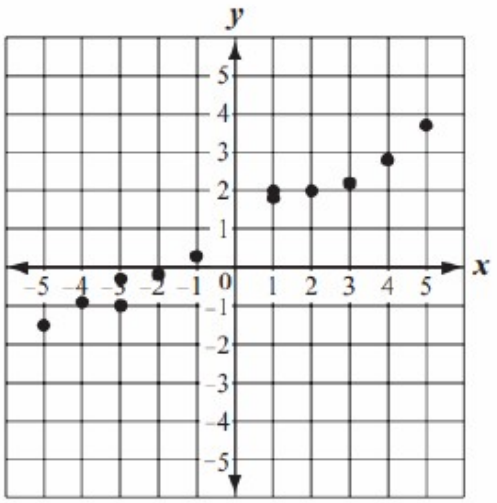
B. (4, 10)

C. (10, –2)

D. (20, –7)

Question 7.

A set of data is shown in the scatterplot below.



Which of the following equations best represents the line of best fit for the data in the scatterplot?

A. $y = -\frac{1}{2}x - 2$

B. $y = -\frac{1}{2}x + 1$

C. $y = \frac{1}{2}x - 2$

D. $y = \frac{1}{2}x + 1$

Question 8.

Which statement is true about the equation below?

$$3(2 - k) = -3k + 2$$

A. The equation has no solution.

B. The equation has one solution.

C. The equation has two solutions.

D. The equation has infinitely many solutions.

Question 9.

For all non-zero values of x, which of the following expressions has a value of 1?

A. $\frac{4}{x} \cdot \left(\frac{-4}{x}\right)$

B. $\frac{4}{x} \cdot \left(\frac{1}{4x}\right)$

C. $\frac{4}{x} \cdot \left(\frac{-x}{4}\right)$

D. $\frac{4}{x} \cdot \left(\frac{x}{4}\right)$

Question.10

Joanna has a total of 50 coins in her purse.

- The coins are either nickels or quarters.
- The total value of the coins is $7.10.

Which system of equations can be used to determine the number of nickels, n, and quarters, q, that Joanna has in her purse?

A $n + q = 50$ $0.05n + 0.25q = 7.10$	B $n + q = 7.10$ $50n + 50q = 7.10$
C $0.05n + 0.25q = 50$ $n + q = 7.10$	D $0.05n + 0.25q = 7.10$ $50n + 50q = 7.10$

Bonus Question

Question 11.A

Find the equation that is equivalent to the quadratic equation showr

$$x^2 - 6x - 27 = 0$$

A. $x(x - 3) = 27$

B. $(x - 6)^2 = 63$

C. $(x - 3)^2 = 36$

D. $(x - 3)^2 = 28$

Question 11.B

Elephant Population Estimates—Namibia
Combined estimates for Etosha National Park and the Northwestern Population

Year	Base Year	Estimated Number of Elephants
1998	3	3,218
2000	5	3,628
2002	7	3,721
2004	9	3,571

The elephant population in northwestern Namibia and Etosha National Park can be predicted by the expression $2{,}649(1.045)^b$, where b is the number of years since 1995.

What does the value 2,649 represent?

A. the predicted increase in the number of elephants in the region each year

B. the predicted number of elephants in the region in 1995

C. the year when the elephant population is predicted to stop increasing

D. the percentage the elephant population is predicted to increase each year