Algebra 1 Quick-Quiz-11222023

Question 1.

Which of the following values of x is a solution of the equation below?

$$x^2 = 256$$

A. -4

B. -16

C. $\quad128$

D. $\quad512$

Question 2

Which of the following is equivalent to the expression below?

$$x^2 - 144$$

A. $(x - 1)(x - 144)$

B. $(x - 1)(x + 144)$

C. $(x - 12)(x - 12)$

D. $(x - 12)(x + 12)$

Question 3.

What is the value of the expression below?

$$-2(3^2 - 10)$$

Question 4

If $4x^2 - 100 = 0$, the roots of the equation are

(1) -25 and 25 (3) -5 and 5

(2) -25, only   (4) -5, only

Question 5.

Which point is *not* on the graph represented by $y = x^2 + 3x - 6$?

(1) $(-6,12)$ (3) $(2,4)$

(2) $(-4,-2)$ (4) $(3,-6)$

Question 6.

A company produces x units of a product per month, where $C(x)$ represents the total cost and $R(x)$ represents the total revenue for the month. The functions are modeled by $C(x) = 300x + 250$ and $R(x) = -0.5x^2 + 800x - 100$. The profit is the difference between revenue and cost where $P(x) = R(x) - C(x)$. What is the total profit, $P(x)$, for the month?

(1) $P(x) = -0.5x^2 + 500x - 150$

(2) $P(x) = -0.5x^2 + 500x - 350$

(3) $P(x) = -0.5x^2 - 500x + 350$

(4) $P(x) = -0.5x^2 + 500x + 350$

Question 7.

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

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

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

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

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

Question 8.

If $q \neq 0$, which of the following is the additive inverse of the expression below?

$$-\dfrac{2}{q}$$

A. $-2q$

B. $-\dfrac{q}{2}$

C. $2q$

D. $\dfrac{2}{q}$

Question 9.

The value of the x-intercept for the graph of $4x - 5y = 40$ is

(1) 10

(3) $-\frac{4}{5}$

(2) $\frac{4}{5}$

(4) -8

Question 10.

40 A dog trainer will use 320 feet of fence to create a rectangular training field. The graph below displays the relationship between the length, in feet, of the training field and the area, in square feet, of the training field.

Rectangular Training Field

Length of Training Field (in feet)
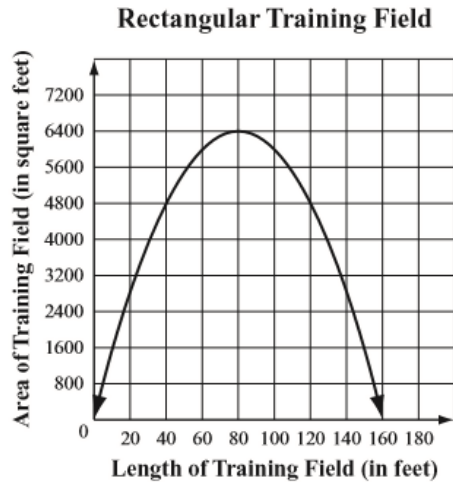
What is the length of the rectangular training field that has the greatest area?

A. 40 feet

B. 80 feet

C. 160 feet

D. 180 feet

Bonus
Question 11

Consider the function $f(x) = 2x^2 + 6x - 8$.

Part A

What is the vertex form of $f(x)$?

A. $f(x) = 2(x - 3)^2 - 4$

B. $f(x) = 2(x + 3)^2 - 4$

C. $f(x) = 2(x - 1.5)^2 - 12.5$

D. $f(x) = 2(x + 1.5)^2 - 12.5$