Algebra Quick Quiz10152024

Name.....

Periods.....

1.

Which function does the table represent?

x	−2	−1	0	1	2
y	4	5	6	7	8

A $y = -2x$
B $y = -5x$
C $y = x + 6$
D $y = -x + 2$

2.

How does the graph of $y = 3x - 1$ differ from that of $y = 3x$?

A The graph is translated 1 unit left.
B The graph is translated 1 unit down.
C The graph is reflected across the x-axis.
D The graph is reflected across the y-axis.

3.

What is the solution of the system $\begin{cases} y = 4x - 1 \\ y = 3x + 2 \end{cases}$?

A (1, 3)
B (1, 5)
C (3, 1)
D (3, 11)

4.

What is the solution to the equation $\frac{x}{3} + 1 = -2$?

A −9
B −7
C −3
D −1

5.

Solve the equation $x^2 - 4 = x + 8$.

A $3, 4$
B $3, -4$
C $-3, 4$
D $-3, -4$

6.

What is the vertex of the graph of the function $f(x) = x^2 + 4x - 5$?

A $(-4, -5)$
B $(-2, 7)$
C $(-2, -9)$
D $(7, -2)$

7.

What are the zeros of the function $f(x) = 6x^2 - 4x - 2$? Show or explain your work.

8.

The length of a rectangle is 3 more than twice its width. The perimeter of the rectangle is 42 centimeters. What is the length of the rectangle?

A 6 cm
B 13 cm
C 15 cm
D 29 cm

9.a.

A ball is thrown directly upward from a height of 30 feet with an initial velocity of 64 feet per second. The equation $h = -16t^2 + 64t + 30$ gives the height h after t seconds.

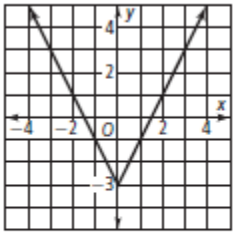
Part A How long does it take for the ball to reach its maximum height? Show or explain your work.

9. b.

Part B What is the maximum height of the ball? Show or explain your work.

10.

The graph of which equation is shown?



A $y = -|2x| + 3$
B $y = |2x| - 3$
C $y = |2x - 3|$
D $y = 2|x - 3|$

11.
Bonus

The value of a car t years after purchase is given by $V(t) = 28\,000 - 4000t$ dollars.

a Find $V(4)$ and state what this value means.

b Find t when $V(t) = 8000$ and explain what this represents.

c Find the original purchase price of the car.

d Do you think this formula is valid for all $t > 0$?