

Algebra 1 Quick Quiz

September 14, 2023

Name.....Period.....

1. If $f(x) = x^2 - 2x - 24$ then find the value of $f(2)$

2. Use your graphing calculator or go to <http://www.desmos.com/calculator> and graph the function:

$$f(x) = x^2 - 2x - 24$$

- A. What are the roots of the function?
- B. What is the vertex of the function?

3.

If $f(x) = x^2 + 2x - 8$

- A. What are the roots of the function?
 - B. What is the vertex of the function?
- Can you use the factoring method or the Quadratic formula to arrive at the roots?

4. Name the roots of the polynomial: $f(x)=(x+4)(x+2)(x-1)$

5. Find the real roots, if any, of the following three functions:

A. $f(x) = (x - 6)^2 - 9$

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

C. $h(x) = (x - 2)^2 + 8$

6. Find the vertex of each of the following three functions:

A. $f(x) = (x - 6)^2 - 9$

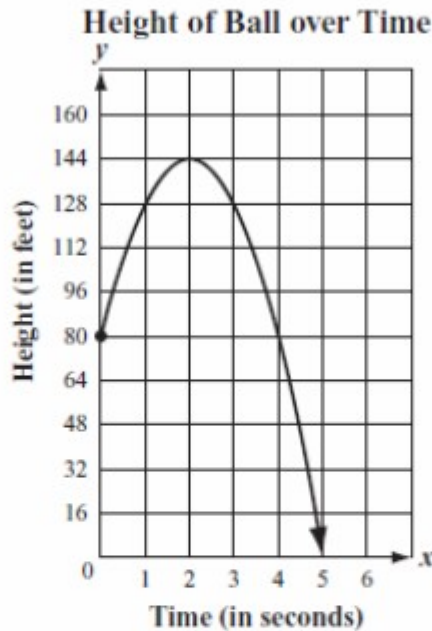
B. $g(x) = (x + 3)^2 - 4$

C. $h(x) = (x - 2)^2 + 8$

Bonus

7.

- 42** The graph below represents y , the height in feet of a ball, x seconds after the ball was thrown upward from a bridge that crosses a river.



- What is the y -intercept of the graph? Show or explain how you got your answer.
- What does the y -intercept represent in the context of this situation?
- After how many seconds did the ball reach its maximum height? Show or explain how you got your answer.
- What is the maximum height, in feet, the ball reached? Show or explain how you got your answer.
- After how many seconds did the ball reach the surface of the river? Show or explain how you got your answer.

