

3U: U3 - Zeros of Quadratics Quiz

K ____/7 T ____/5

Multiple Choice

K ____/2

Identify the choice that best completes the statement or answers the question.

- _____ 1. Which of the following are roots of the equation $x^2 - 3x - 28 = 0$?
- | | |
|-----------------|-----------------|
| a. $x = -4, 7$ | c. $x = -7, 4$ |
| b. $x = -28, 0$ | d. $x = -24, 4$ |
- _____ 2. What is the value of the discriminant for the function $h(x) = 14x^2 - 9x - 5$?
- | | |
|-----------|----------|
| a. -361 | c. 199 |
| b. -199 | d. 361 |

Provide clear solutions to the following problems:

3. Use the quadratic formula to determine each of the roots of $12x^2 - 11x + 2 = 0$ rounded to two decimal places. K ____/2
4. Heidi owns a business that sells photographs. The profit function for her business can be modelled by the equation $P(x) = -0.5x^2 + 5x - 7$, where x is the quantity sold, in thousands, and $P(x)$ is the profit in thousands of dollars. How many photos must Heidi sell in order for her business to break even? K ____/3

5. Determine the number of zeros for the function $f(x) = -(x - 3)^2 - 5$. Explain your answer. **T ____/2**

6. For what value(s) of k will the function $g(x) = x^2 - kx + 5$ have only one zero? **T ____/3**