11U: Functions - U3 - Practice Quiz: Zeros

Multiple Choice
*Identify the choice that best completes the statement or answers the question. Circle the letter of your choice **AND** write the leter beside the question number.*

1. Which of the following are roots of the equation $-3x^2 + 6x + 105 = 0$?
   a. $x = -7, 5$
   b. $x = -5, 7$
   c. $x = -5, 3, 7$
   d. $x = -5, -3, 7$

2. What are the x-intercepts of the function $f(x) = -2x^2 - 11x + 8$?
   a. (0.65, 0), (–6.15, 0)
   b. (–4.64, 0), (–0.86, 0)
   c. (4.64, 0), (0.86, 0)
   d. (23.13, 0), (–2.75, 0)

3. What is the value of the discriminant for the function $f(x) = 8x^2 + 13x + 7$?
   a. –68
   b. –55
   c. 0
   d. 393

Full Solution
Solutions will be posted tonight

4. Neal dropped a small stone off a bridge that is 21 m above the water. The height of the stone is given by the function $h(t) = -4.9t^2 + x + 21$, where $h(t)$ is the height in metres and t is the time in seconds. How long will it take for the stone to hit the water?

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

6. For what value(s) of k will the function $h(x) = 4x^2 - kx + 25$ have only one zero? Explain your answer.