

NAME: _____ Score _____/10

Please **print** your name**SHOW ALL YOUR WORK IN A NEAT AND ORGANIZED FASHION**

1. A function whose rule can be written as $f(x) = 3x - 7$ is a **linear** function.
2. **T** **F** The graph of a quadratic function is a parabola.
3. **T** **F** A zero of a function is in the range of the function.

4. Determine whether $(2, 3)$ is on the graph of the function whose rule is $f(x) = \frac{2x - 1}{4 - 3x}$. **Neatly show your work. No work – No credit. End your work with a clearly stated conclusion.**

The point $(2, 3)$ is on the graph of f if and only if $f(2) = 3$. (The definition of graph tells us this)

$$f(2) = \frac{2(2) - 1}{4 - 3(2)} = \frac{3}{-2} \neq 3$$

Therefore the point $(2, 3)$ is not on the graph of f .

5. A function is displayed at the right.
What are the zeros of this function ?

Zeros of a function are domain elements whose corresponding range elements are 0. In this case that means zeros are those domain elements with arrows terminating at the number 0.

Clearly arrows emanating from 4 and 8 terminate at 0 and no other arrows terminate at 0. Therefore the zeros of f are 4 and 8.

