

## Quiz 2: Version B

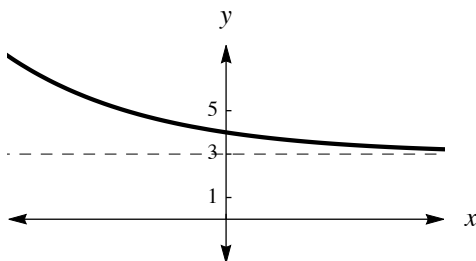
First & Last Name: \_\_\_\_\_ Class: \_\_\_\_\_

1. Is the function

$$f(x) = \begin{cases} -3x^2 + 2 & x \geq 2 \\ -x^2 - 5 & x < 2 \end{cases}$$

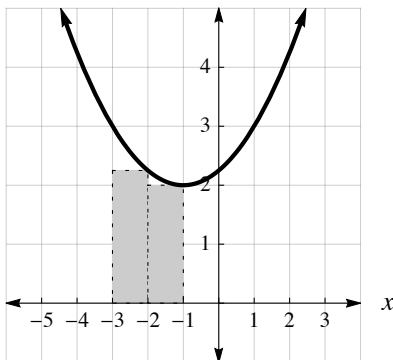
continuous? Explain.

2. State the *range* of the following function.



3. Approximate the area between the parabola (shown below) and the  $x$ -axis for  $-3 \leq x \leq 2$  using *right-hand rectangles* with widths of 1. Two rectangles have been drawn for you.

$$f(x) = \frac{1}{4}(x + 1)^2 + 2$$



### Challenge (required for Honors)

4. Simplify  $f(x) = \frac{x^2 - 3x - 14}{x + 4}$

5. Where does  $f(x)$  in the previous question have a hole or asymptote? Is it a hole or an asymptote? Explain.