

# MATH 1 – QUIZ 1

Name \_\_\_\_\_

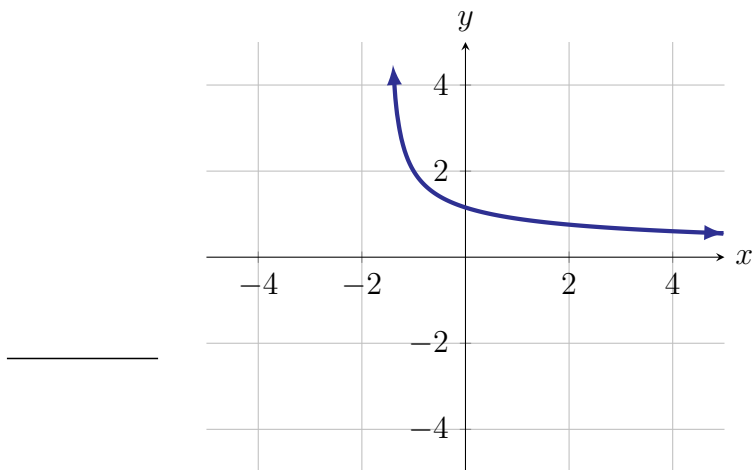
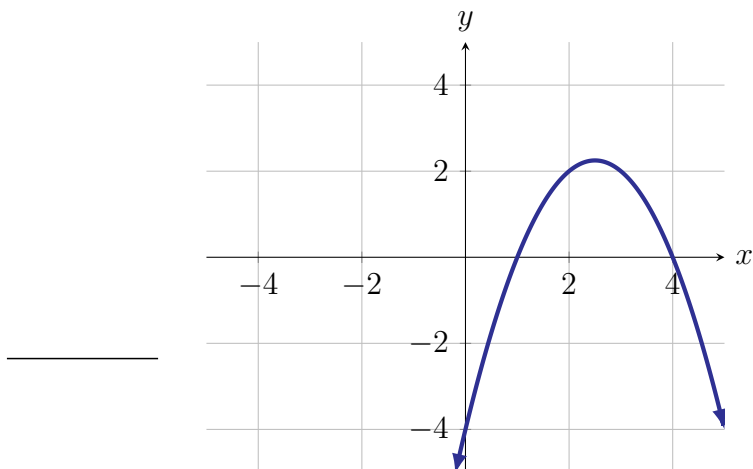
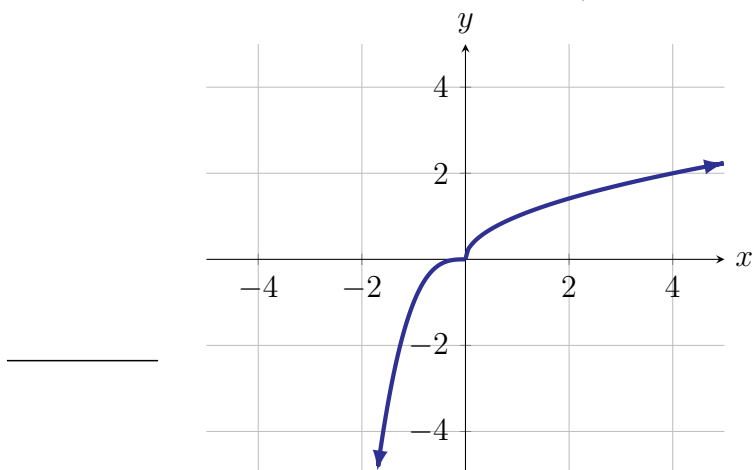
**Instructions:** This quiz is closed book. You may not use notes, computing devices (calculators, computers, cell phones, etc.) or any other external resource. However, you may ask the instructor for clarification on problems. Please present your work neatly and clearly, **justify** your answers completely, and **box your answers**, when appropriate.

1. For each of the following functions, fill in which function listed corresponds to the picture of the graph.

$$f(x) = -x^2 + 3x - 2$$

$$g(x) = \begin{cases} x^3 & x \in (-\infty, 0] \\ \sqrt{x} & x \in [0, \infty) \end{cases}$$

$$h(x) = \frac{2}{\sqrt{2x+3}}$$



2. For each of the following graphs, identify if it represents a function. If yes, identify the domain, range, x-intercepts, y-intercept, and regions on which the function is increasing and decreasing. Estimate if necessary.

Is this a function? \_\_\_\_\_ If yes:

Domain: \_\_\_\_\_

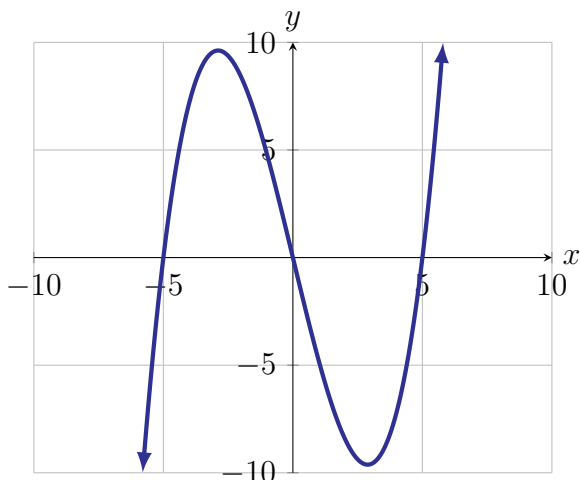
Range: \_\_\_\_\_

X-intercept(s): \_\_\_\_\_

Y-intercept: \_\_\_\_\_

Increasing: \_\_\_\_\_

Decreasing: \_\_\_\_\_



Is this a function? \_\_\_\_\_ If yes:

Domain: \_\_\_\_\_

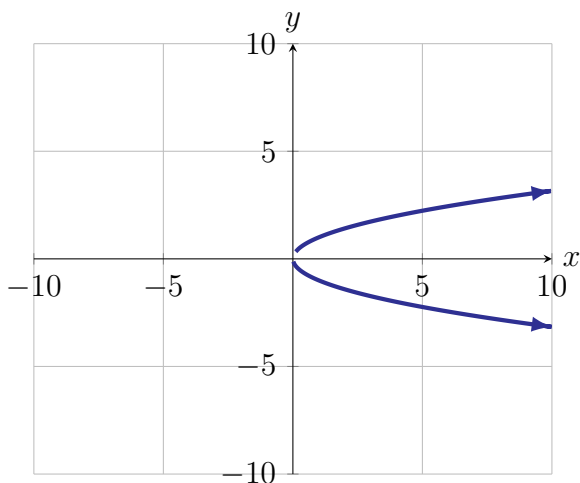
Range: \_\_\_\_\_

X-intercept(s): \_\_\_\_\_

Y-intercept: \_\_\_\_\_

Increasing: \_\_\_\_\_

Decreasing: \_\_\_\_\_



3. Let  $f(x) = \sqrt{x^2 - 3}$  and  $g(x) = \frac{1}{x}$ . Find  $(g \circ f)(x)$  and  $(f \circ g)(x)$ .