

Name: _____

Date: _____

Learning Goal 1.1

Understanding new ideas about functions and applying that to previously knowledge.

Function

1.

2.

3.

4.

Domain**Range****Example** Find the domain of the following functions.

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

b. $g(x) = \frac{5x - 1}{\sqrt{x^2 + 3x + 2}}$

c. $h(x) = \sqrt{x} + \sqrt{4 - x}$

Example If $f(x)$ and $g(x)$ are defined as follows, find the composition of functions.

$f(x) = x^2 + 5$

$g(x) = \frac{1}{x}$

a. $f(g(x))$

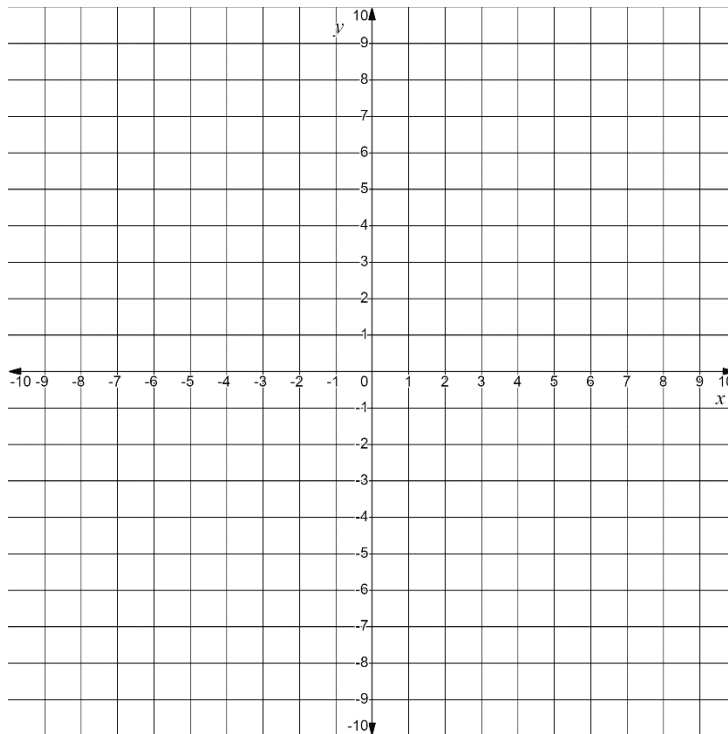
b. $(g \circ f)(x)$

c. $(f \circ f)(x)$

Piece – Wise Functions

Example Sketch the functions. State the range.

a.
$$f(x) = \begin{cases} x, & x \leq 0 \\ \frac{1}{2}x + 2, & x > 0 \end{cases}$$



b.
$$g(x) = \begin{cases} 4 - x, & x \leq 1 \\ x^2, & 1 < x \leq 3 \\ -6, & x > 3 \end{cases}$$

