



Determine the domain and range of the functions and show all steps.

$$f(x) = \frac{1}{x - 3}$$

Show all steps here

$$f(x) = \frac{2x}{x + 5}$$

Show all steps here

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

Show all steps here

$$f(x) = \frac{x^2 - 9}{x - 3}$$

Show all steps here

$$f(x) = \frac{3}{x^2 + 1}$$

Show all steps here



Determine the domain and range of the functions and show all steps.

Domain:  $(-\infty, 3) \cup (3, \infty)$  or  $\{x|x \neq 3\}$ .

Range:  $(-\infty, 0) \cup (0, \infty)$  or  $\{y|y \neq 0\}$ .

Domain:  $(-\infty, -5) \cup (-5, \infty)$  or  $\{x|x \neq -5\}$ .

Range:  $(-\infty, 2) \cup (2, \infty)$  or  $\{y|y \neq 2\}$ .

Domain:  $(-\infty, -2) \cup (-2, 2) \cup (2, \infty)$  or  $\{x|x \neq -2, x \neq 2\}$ .

Range:  $(-\infty, \infty)$  or  $\mathbb{R}$ .

Domain:  $(-\infty, 3) \cup (3, \infty)$  or  $\{x|x \neq 3\}$ .

Range:  $(-\infty, 6) \cup (6, \infty)$  or  $\{y|y \neq 6\}$ .

Domain:  $(-\infty, \infty)$  or  $\mathbb{R}$ .

Range:  $(0, 3]$  or  $\{y|0 < y \leq 3\}$ .