

Name: _____

Domain and Range of Functions

- 1) Find the domain of each of the following functions. Write the domain first as an inequality, and then express it in interval notation.

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

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

3) $f(x) = \frac{5}{x-3}$

4) $f(x) = \frac{-7}{x+8}$

5) $h(x) = \frac{x+4}{x-6}$

6) $f(t) = \frac{-8}{2t+5}$

7) $f(x) = \frac{x-6}{x+4}$

8) $h(t) = \frac{2}{3t-4}$

9) $g(x) = \frac{4x-1}{4x-9}$

10) $f(x) = \frac{5x+7}{3x+7}$

11) $g(x) = \frac{x^2-1}{x^2-9}$

12) $h(x) = \frac{x^2+2}{x^2-25}$

13) $f(t) = \sqrt{t}$

14) $h(x) = \sqrt[3]{x}$

15) $f(x) = \sqrt{x-5}$

16) $g(x) = \sqrt{x+7}$

17) $g(x) = \sqrt[3]{x+7}$

18) $h(t) = \sqrt{3t-2}$

19) $f(x) = \sqrt[3]{x-5}$

20) $h(x) = \sqrt{2x+9}$

21) $g(x) = \sqrt{1-5x}$

22) $f(x) = \sqrt{4-x}$

23) $f(x) = 2 + \sqrt{7x+4}$

24) $G(x) = \frac{\sqrt{3-x}}{x}$

25) $f(x) = 8 + \sqrt{-5-2x}$

26) $H(x) = \sqrt{\frac{x-2}{x-6}}$

27) $f(t) = \sqrt[3]{t-1}$

28) $g(x) = \sqrt[3]{2x-9}$

29) $h(t) = \sqrt[3]{\frac{t-1}{t+5}}$

30) $f(x) = \sqrt[3]{\frac{2x-9}{4x-7}}$

31) $h(x) = \sqrt[5]{x}$

32) $h(x) = \sqrt[4]{x}$

33) $g(x) = \sqrt[6]{3x-5}$

34) $g(x) = \sqrt[5]{2x+7}$

35) $f(x) = |x|$

36) $g(x) = |x-2|$

37) $H(x) = |2x-6|$

38) $f(x) = |3x+5|$

39) $f(x) = \frac{-2}{|x-7|}$

40) $f(x) = \frac{5}{|x|}$

41) $f(x) = \left| \frac{x-3}{x+4} \right|$

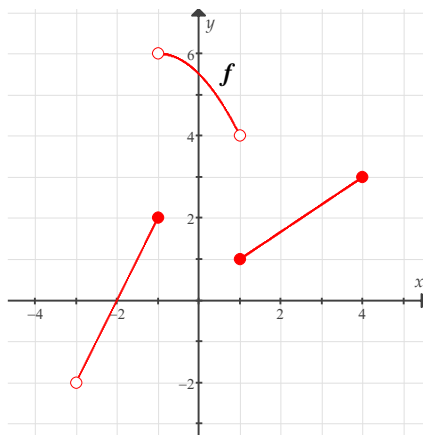
42) $f(x) = \left| \frac{x+9}{x-1} \right|$

2)

3)

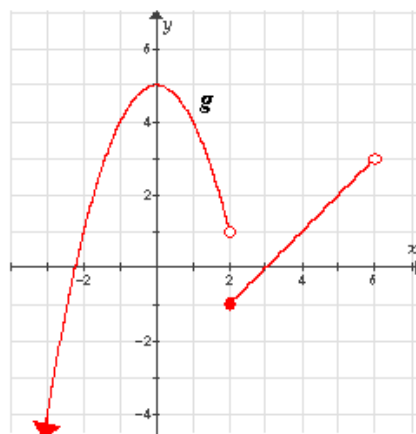
4)

5) The graph of $y = f(x)$ is shown below.



- 1) Find the domain of the function. Write your answer in interval notation.
- 2) Find the range of the function. Write your answer in interval notation.
- 3) Find the following function values:
 $f(-3)$; $f(-2)$; $f(-1)$; $f(1)$; $f(4)$
- 4) Which is smaller, $f(0)$ or $f(3)$?

6) The graph of $y = g(x)$ is shown below.



- 1) Find the domain of the function. Write your answer in interval notation.
- 2) Find the range of the function. Write your answer in interval notation.
- 3) Find the following function values:
 $g(-2)$; $g(0)$; $g(2)$; $g(4)$; $g(6)$
- 4) Which is greater, $g(-2)$ or $g(3)$?