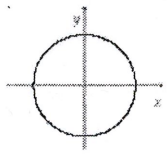
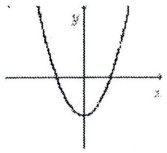
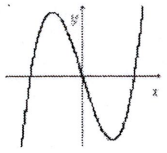
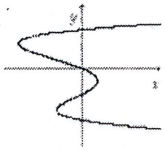
Functions Practice name _____

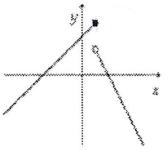
Determine whether each of the graphs represents a function

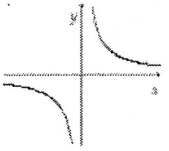
1.  No

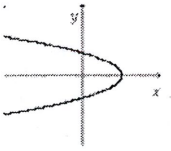
2.  Yes

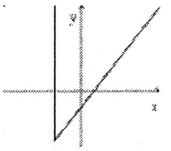
3.  Yes

4.  No

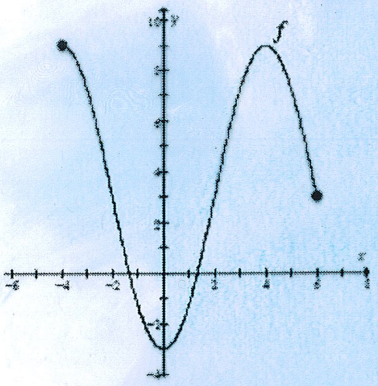
5.  Yes

6.  Yes

7.  No

8.  No

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



(a) Find the domain of the function. Write your answer in interval notation. [-5,6]

(b) Find the range of the function. Write your answer in interval notation. [-3,9]

(c) Find the y-intercept(s) of the function. (0,-3)

(d) Find the following function values:
$f(-2)$; $f(0)$; $f(4)$; $f(6)$ 2, -3, 9, 3

(e) For what value(s) of x is $f(x) = 9$? ±4

(f) On what interval(s) is f increasing? (0,4)

(g) On what interval(s) is f decreasing? (-5,0) (4,6)

(h) What is the maximum value of the function? 9

(i) What is the minimum value of the function? -3

Evaluate:

If $g(x) = x^2 - 3x + 4$, find:

$g(0)$, $g\left(-\frac{1}{4}\right)$, $g(x+5)$, $g\left(\frac{1}{a}\right)$, $g(3a)$, $3g(a)$

$g(0) = 4$ $g(-1/4) = \frac{77}{16}$ $g(x+5) = x^2 + 7x + 14$

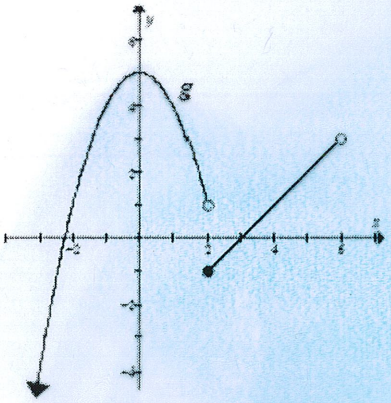
$g\left(\frac{1}{a}\right) = \frac{4a^2 - 3a + 1}{a^2}$

$g(3a) = 9a^2 - 9a + 4$

$3g(a) = 3a^2 - 9a + 12$

Functions Practice name _____

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



(a) Find the domain of the function. Write your answer in interval notation. $(-\infty, 6)$

(b) Find the range of the function. Write your answer in interval notation. $(-\infty, 5]$

(c) How many x-intercept(s) does the function have? 2

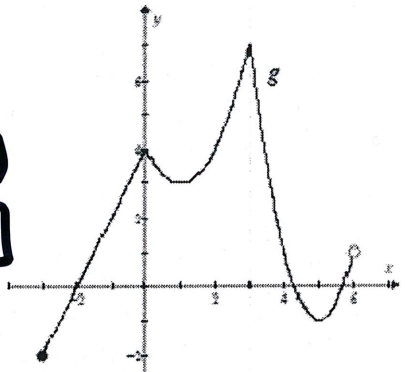
(d) Find the following function values:
$g(-2)$; $g(0)$; $g(2)$; $g(4)$; $g(6)$ 1, 5, -1, 1, undefined

(e) Which is greater, $g(-2)$ or $g(3)$? $g(-2)$

(f) On what interval(s) is g increasing? $(-\infty, 0)(2, 6)$

(g) On what interval(s) is g decreasing? $(0, 2)$

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



(a) Find the domain of the function. Write your answer in interval notation. $[-3, 6)$

(b) Find the range of the function. Write your answer in interval notation. $[-2, 7]$

(c) Find the y-intercept(s) of the function. $(0, 4)$

(d) Find the following function values:
$g(-2)$; $g(0)$; $g(1)$; $g(3)$; $g(6)$ 0, 4, 3, 7, und.

(e) For what value(s) of x is $g(x) = -2$? $x = -3$

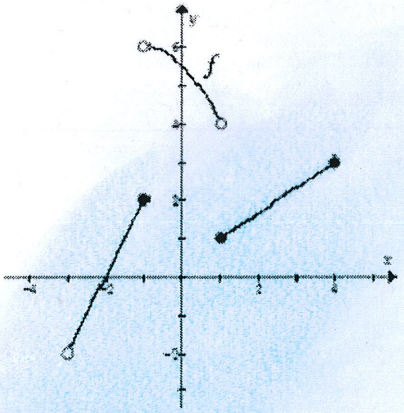
(f) On what interval(s) is g increasing? $(-3, 0)(1, 3)(5, 6)$

(g) On what interval(s) is g decreasing? $(0, 1)(3, 5)$

(h) What is the maximum value of the function? 7

(i) What is the minimum value of the function? -2

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



(a) Find the domain of the function. Write your answer in interval notation. $(-3, 4]$

(b) Find the range of the function. Write your answer in interval notation. [redacted] $(-2, 3] \cup (4, 6)$

(c) Find the x-intercept(s) of the function. $x = -2$

(d) Find the following function values:
$f(-3)$; $f(-2)$; $f(-1)$; $f(1)$; $f(4)$ und, 0, 2, 1, 3

(e) Which is smaller, $f(0)$ or $f(3)$? $f(3)$

(f) On what interval(s) is f increasing? [redacted] $(1, 4)(-3, -1)$

(g) On what interval(s) is f decreasing? $(-1, 1)$