

## Features of Functions

Name: \_\_\_\_\_

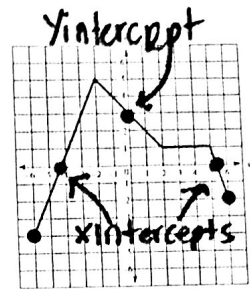
Date: \_\_\_\_\_ Period: \_\_\_\_\_

Domain: the input or x values

Range: the output or y values

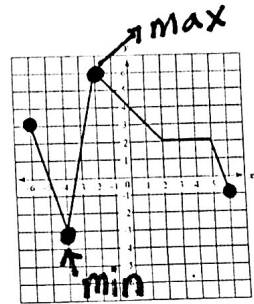
x-intercept: point where graph crosses the x axis (x, 0)

y-intercept: point where graph crosses the y axis (0, y)



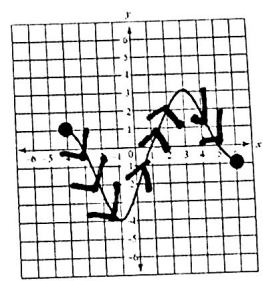
The maximum of a function is the largest function value (output)

The minimum of a function is the smallest function value (output)



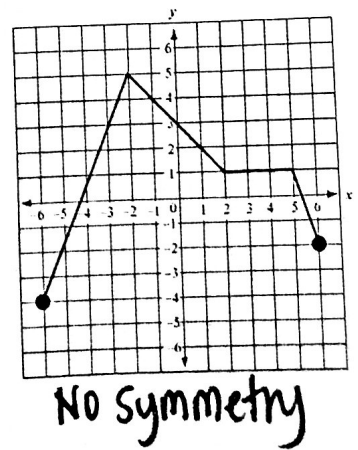
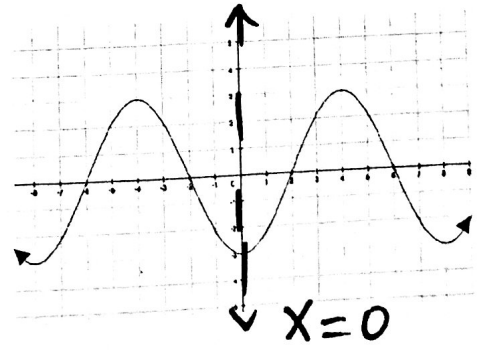
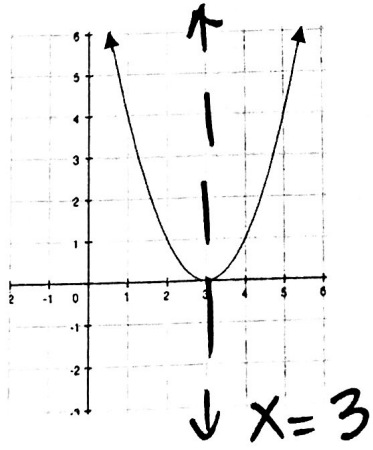
Increasing: going up \* read graph from

Decreasing: going down left to right \*



Axis of symmetry: vertical a line through a shape that cuts the shape in half

If these figures have an axis of symmetry, draw it on.



1. Find the key features of the function  $f(x)$ , graphed here.

a) Is the graph increasing or decreasing from  $x = -2$  to  $x = 0$ ?

decreasing

b) Is the graph increasing or decreasing from  $2 < x < 3$ ?

→ when  $x$  is greater than 2 and less than 3  
increasing

c) x-intercept:  $(-1, 0)$   $(2, 0)$

d) y-intercept:  $(0, -2)$

e) Evaluate  $f(1) =$  when  $x=1$ , what is  $y$ ?  $f(1) = -2$

f) Maximum: none

g) Minimum:  $-2.25$

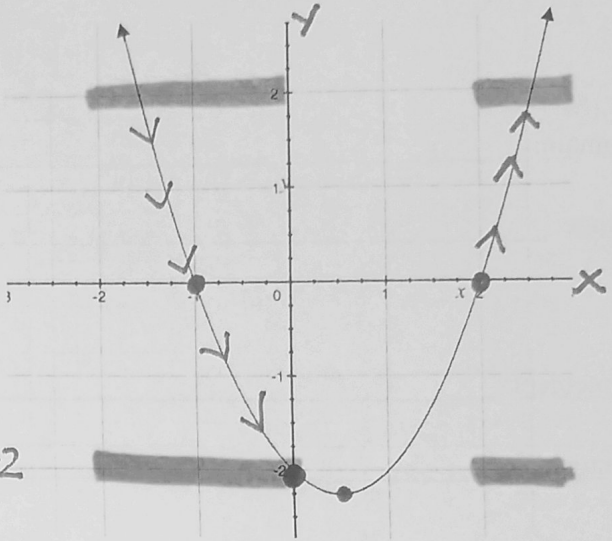
h) Domain: all real numbers  $0 \leq x \leq 0$   $(-\infty, \infty)$   $(-\infty, \infty)$

i) Range:  $y \geq -2.25$

j) Axis of symmetry?

Yes  $x = 0.5$

Parabola



2. Find the key features of the function  $g(x)$  to the right.

a) Where is the graph increasing?

it is not increasing anywhere

b) y-intercept:  $(0, -6)$

c) x-intercept:  $(-2, 0)$

d) Find  $g(-3) = g(-3) = 1$

e) Maximum: approaches 2

f) Minimum: none

g) Domain: all real numbers  $(-\infty, \infty)$

h) Range:  $-\infty < y < 2$   $y < 2$

i) Axis of symmetry?

No

Log Function

