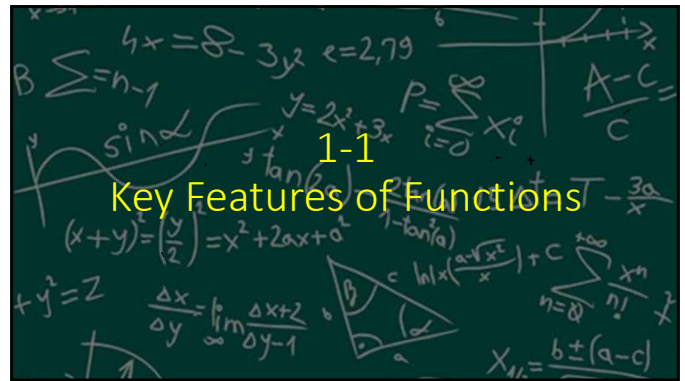


## Do Now (8/20 &amp; 8/21)

Grab handouts. Take your 1-1 notes out. Complete the tasks in the first 3 columns of the Note Repetition and Study Log: Circle vocab, highlight key terms, and mark it up (use red pencils for this). I have supplies in the cabinet bins by the front door. Make sure your notes are in your binder so I can check them there.

Topic 1 Scale, Study Log, and Powerpoint Notes go on Notes Tab of binder



## I CAN...

interpret key features of linear, quadratic, and absolute value function given an equation or a graph

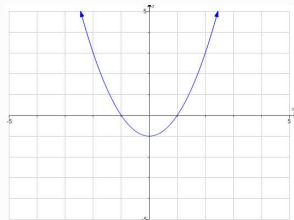
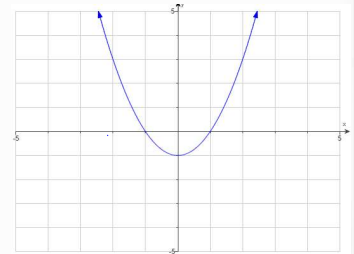
Standard: MAFS.912.F-IF.2.4

For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.

## Example 1

Use the graph to determine a. the function's domain; b. the function's range; c. the x-intercepts, if any; d. the y-intercept, if any; and e. the missing function values, indicated by question marks, below.

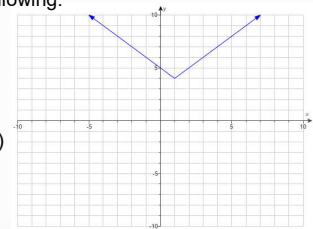
$f(-2) = ?$   $f(2) = ?$

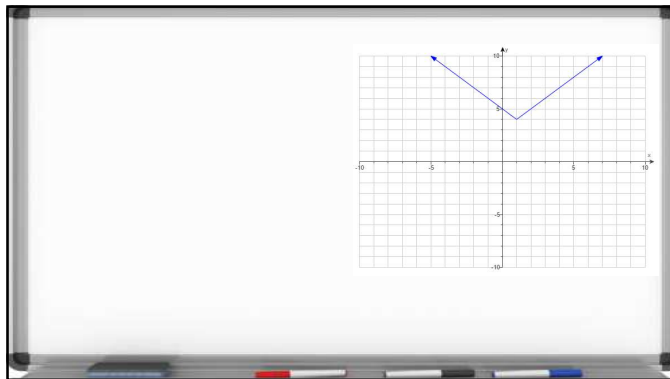


## Try It!

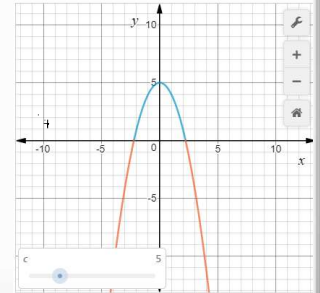
Use the graph to determine the following.

- the function's domain
- the function's range
- the x-intercepts, if any
- the y-intercept, if any
- the function values,  $f(0)$  and  $f(2)$

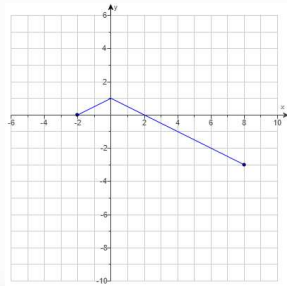


**Example 2**

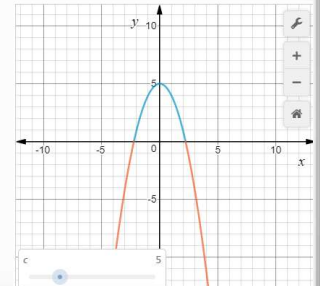
For what intervals is  $y = -x^2 + 36$  positive? For what intervals is the function negative?

**Try It!**

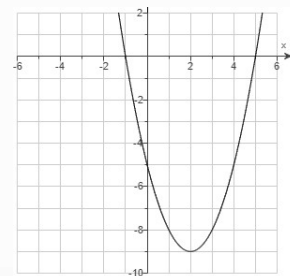
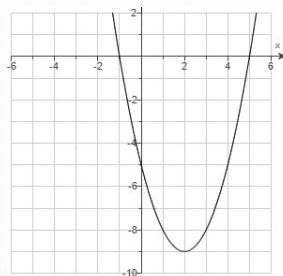
Use the graph of the function. Determine over what interval(s) the function is positive or negative.

**Try It!**

For what intervals is  $y = -x^2 + 36$  positive? For what intervals is the function negative?

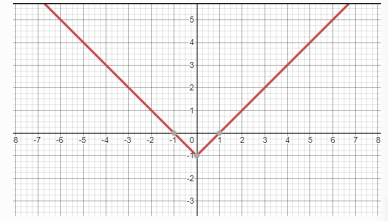
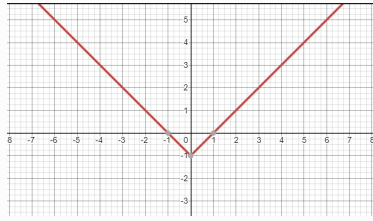
**Example 3**

Determine (a) over what interval (s) the function is increasing or decreasing. Find the (b) vertex (maximum/minimum), (c) axis of symmetry



**Try It!**

Determine (a) over what interval (s) the function is increasing or decreasing. Find the (b) vertex (maximum/minimum), (c) axis of symmetry

**Example 4**

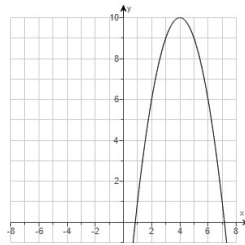
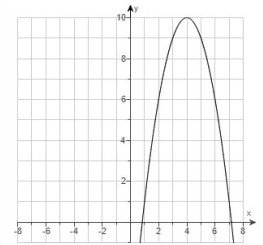
It is possible to find the average rate of change for an interval between two points of a function by finding the slope between the points. Use the graph to find the y-value for each x-value. Then find the average rate of change for each interval.

a. (4, ) and (5, )

The rate of change between these two points is .

b. (5, ) and (6, )

The rate of change between these two points is .

**Example 4****Try It!**

Then find the average rate of change for each interval for the following function:

$$F(x) = 2x - 1$$

a. (4, ) and (5, )

The rate of change between these two points is .

b. (5, ) and (6, )

The rate of change between these two points is .

Constant Function

Linear

Non-linear (quadratic)

**Example 5 Tie everything together**

Using the function  $y = |x-2|+1$ , find the (a) domain, (b) range, (c) intervals of increase/decrease, (d) intercepts, (e) vertex, (f) line of symmetry, (g) positive/negative intervals, and (h) the rate of change over interval  $[2, 3]$

**Try It!**

Using the function  $y = -x^2+5$ , find the (a) domain, (b) range, (c) intervals of increase/decrease, (d) intercepts, (e) vertex, (f) line of symmetry, (g) positive/negative intervals, and (h) the rate of change over interval  $[2, 3]$

**Practice**

#4-11, 14, 18-22, 23-27

**HW:**

Online Weekly: 1-1 Adaptive Practice HW (due Sunday night 11:59 pm, 8/25)

Daily/Regular: 1-2 Notes (1<sup>st</sup> half of notes – pg. 1-5 due 8/22)