

# Digits LESSON 7.5/7.6

## Function Intervals

2/13/2020

Goal: I will be able to **understand increasing and decreasing intervals and sketch a function graph.**

Tool Bag  
Formulas, equations  
Vocabulary, etc

Here's How... Notes & Examples

Intervals  
A period of time between 2 points of time

3 types of intervals

- 1) Increasing
- 2) Constant
- 3) Decreasing

Example

A bus stops to pick you up. The bus starts driving and picks up speed. The bus reaches a constant speed for some time. The bus then slows down for the next stop. The bus stays at the stop for a few minutes, then starts to drive again. Make an interval graph and label it to represent this situation.

You Try

Identify the increasing, constant, and decreasing intervals. How many of each interval are there?

- 1) Increasing - 2
- 2) Constant - 3
- 3) Decreasing - 3

Sketching a Function Graph

You draw a graph without actual data, so it is a sketch

Example

An athlete measures her pulse during a 50 minute workout. The workout includes a 10-minute warmup and 5 minute cool-down. Sketch and label a graph showing her pulse rate during the workout.

Step 1

Identify the two variables being related.  
 $p$  = pulse rate  $t$  = time

Step 2

Look for key words that describe the relationship  
Warm up: pulse increases workout: constant pulse  
cool down: pulse decreases

Step 3

Sketch and label the graph.

You Try

An airplane flew for 85 minutes. It took 20 minutes to reach cruising altitude and 15 minutes to descend and land. Sketch a graph that shows the plane's altitude during the flight.

altitude  $a$

take off

0

20

70

85

time

landing

cruising

Example

Match each description with its corresponding graph.

a. You leave home and ride your bike to the library, where you stay for a while. Then you ride to your friend's house.

b. You ride your bike home from soccer practice. On the way, you stop at your friend's and play video games and then you go home.

(b)

Distance from Home

Time

Soccer ride to friends play games ride home

friend's house

(a)

Distance from Home

Time

library study ride to friend's house ride bike