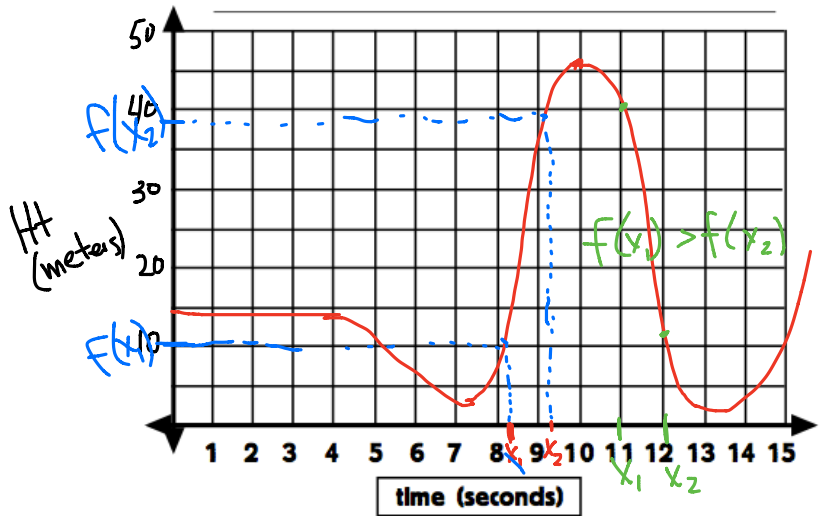
Name: _____ Math 7.2, Period _____

Mr. Rogove Date: _____

LEARNING OBJECTIVE: We will interpret the graph of a function. (Lesson 99)

CONCEPT DEVELOPMENT:

Let's look at www.graphingstories.com. "Height" by Jean-Phillipe Choiniere



A function f is called **increasing** on an interval I if $f(x_1) < f(x_2)$ whenever $x_1 < x_2$ in I.

$I = (7, 10), (13, 15]$

A function f is called **decreasing** on an interval I if $f(x_1) > f(x_2)$ whenever $x_1 < x_2$ in I.

A function f is called **positive** on an interval I if $f(x) > 0$ $for\ all\ x\ in\ I$.

$I = [0, 15]$

A function f is called **negative** on an interval I if $f(x) < 0$ $for\ all\ x\ in\ I$.

$\emptyset$

Interval notation: Another way to describe a set (as opposed to graphing or set builder notation.

A domain/range of [3, 4] means all numbers between 3 and 4, including both 3 and 4.

A domain/range of $(-4, 6)$ means all numbers between -4 and 6, excluding both -4 and 6.

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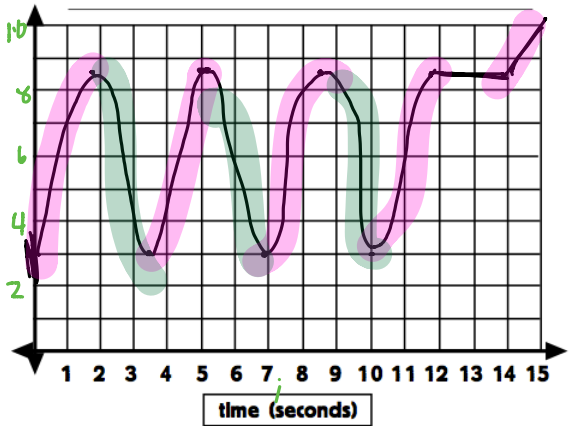
Guided Practice:

Steps for Interpreting Graphs of Functions

1. If necessary, graph the function.
2. Identify the domain and range.
3. Identify on what intervals the function is increasing/decreasing.
4. Identify on what intervals the function is positive/negative.

Graphing Stories: Distance from camera: Adam Poetzel



Domain: $\{All\ \mathbb{R} \mid 0 \le x \le 15\}$

Range: $\{All\ \mathbb{R} \mid 3 \le f(x) \le 10\}$

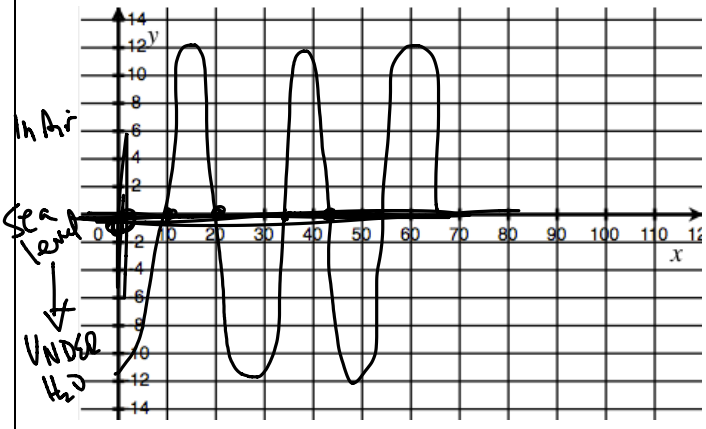
Increasing: $[0, 1.8), (3.5, 5), (7, 8.5), (10, 12)$

Decreasing: $(14, 15]$

Positive: $[0, 15]$

Negative: $\emptyset$

https://www.youtube.com/watch?v=g8RoFdyYY3s



Domain: $\{All\ \mathbb{R} \mid x \ge 0\}$

Range: $\{All\ \mathbb{R} \mid -12 \le f(x) \le 12\}$

Increasing:

Decreasing:

Positive: IN AIR

Negative: UNDER WATER

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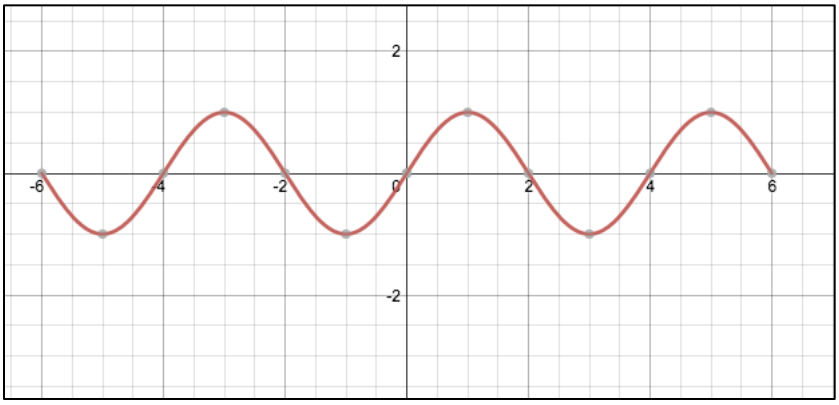


Domain:

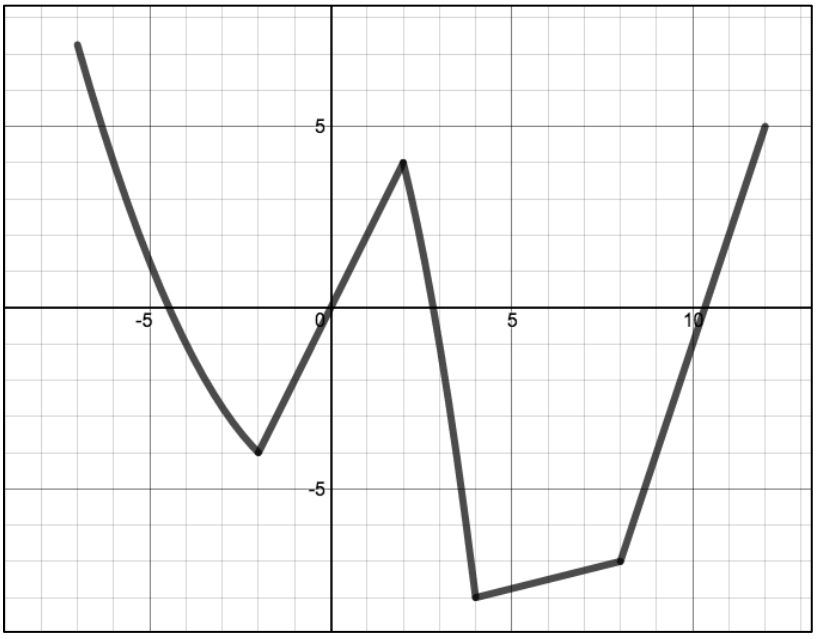
Range:

Increasing:

Decreasing:

Positive:

Negative:



Domain:

Range:

Increasing:

Decreasing:

Positive:

Negative:

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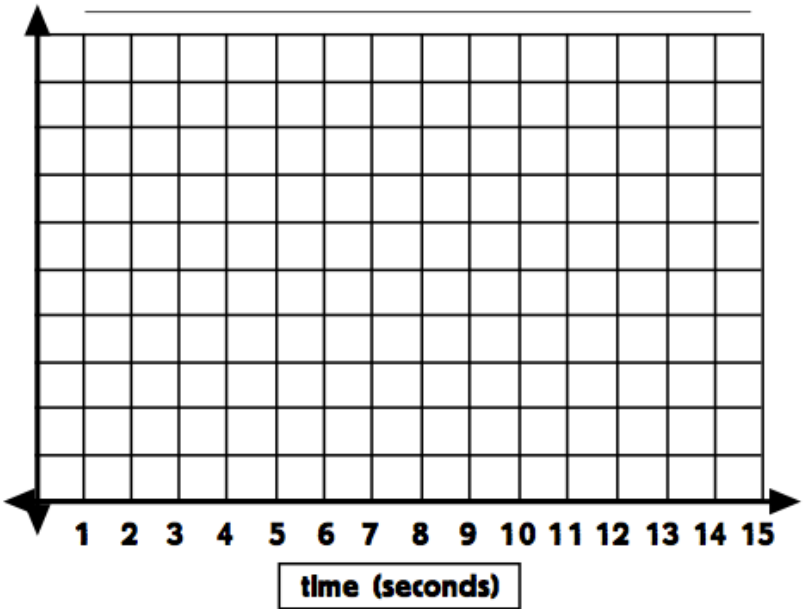
Closure:

Graphing Stories Distance from Bench, Kenneth Lawler



Domain:

Range:

Increasing

Decreasing:

Positive:

Negative:

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Independent Practice:

Hand out closure page for independent practice?

Activating Prior Knowledge:

Notes:

Lesson 13 from ENY Alg 1 Mod 3 covers the story of the Mars Rover landing. I think it might be a little easier to introduce some of the characteristics of functions through graphing stories website.