

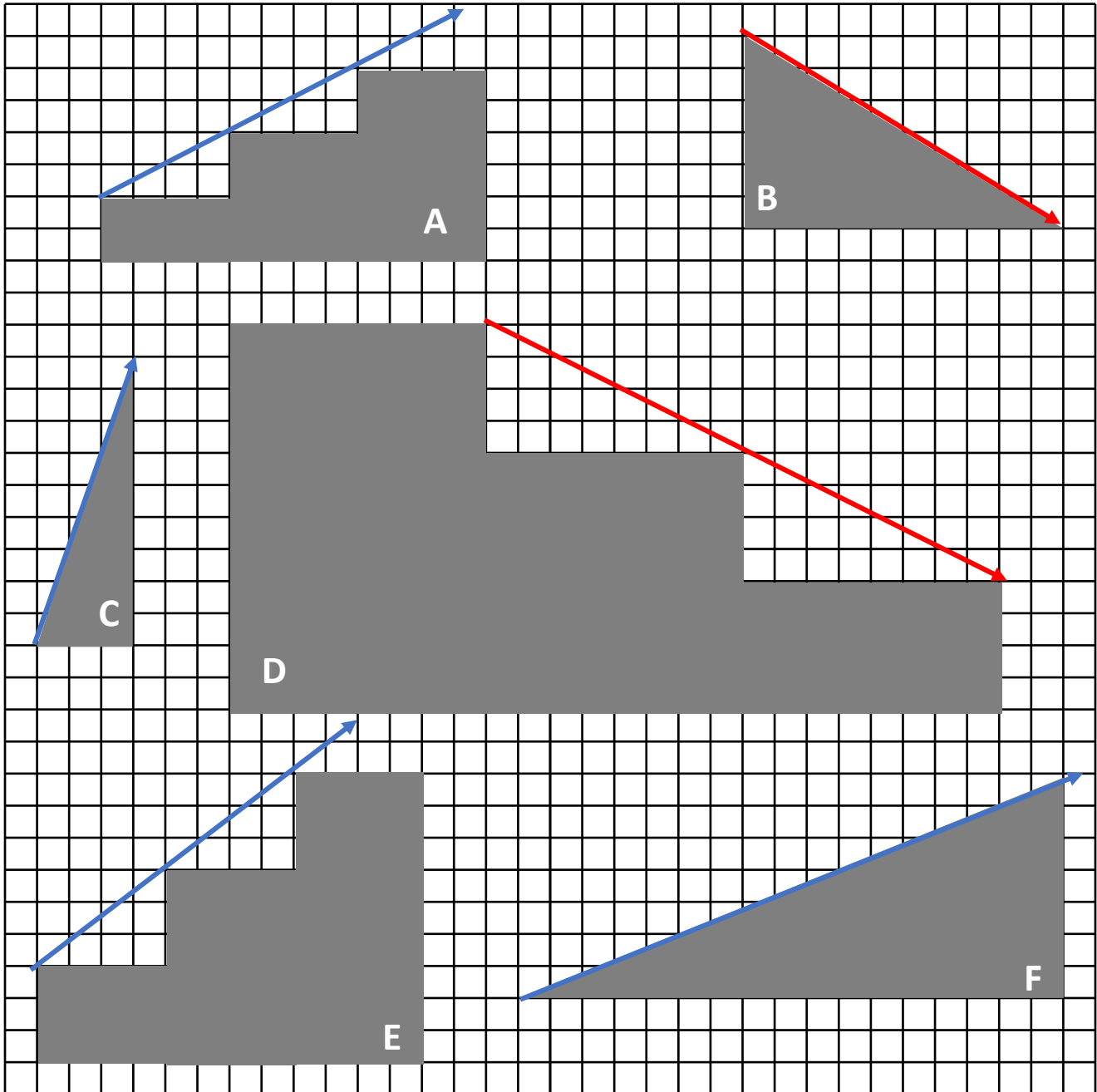
Name:

Date:

Period:

Find the “steepness” of the ramps and staircases below by calculating the vertical change and the horizontal change. Write your answer as a fraction. If the ramp or staircase goes up from left to right, your answer is positive. If your ramp or staircase goes down from left to right, your answer is negative.

$$\text{Steepness} = \frac{\text{Vertical change } (\updownarrow)}{\text{Horizontal change } (\leftrightarrow)}$$



A = _____

B = _____

C = _____

D = _____

E = _____

F = _____

Name:

Date:

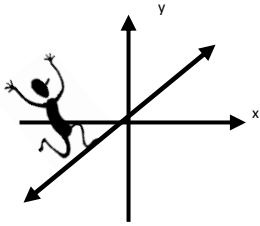
Period:

The SLOPE of a line (steepness) is found by comparing the change in the vertical distance (\updownarrow) to the change in the horizontal distance (\leftrightarrow).

The 4 BASIC TYPES of slopes:

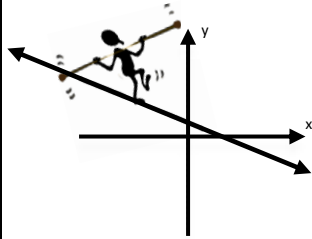
Positive

From left to right, the line goes UP



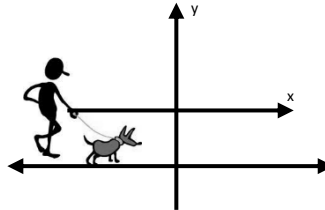
Negative

From left to right, the line goes DOWN



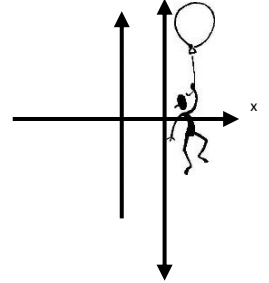
Zero

From left to right, the line has ZERO change up or down. It is a HORIZONTAL line.



Undefined (No)

You would not be able to walk on this line. It makes NO sense. It is a VERTICAL line.



It is helpful to picture someone walking on the line to determine whether it is positive, negative, zero or undefined.

There are several different methods to find the slope. Finding the RATE OF CHANGE (slope) from:

<u>Two Points</u>	<u>A Table</u>	<u>A Graph</u>	<u>A Situation</u>
Since every point is given as an (x, y) ordered pair, you can substitute into the slope formula.	Determine the CHANGE in the values of the EACH column (if table is vertical) or row (if table is horizontal).	Select two "good" points on the line. Count the # of boxes you go up or down, then count how many boxes you move to the right to get from one point to the other.	Determine which value changes based on the situation. Very often it is written as a unit rate.
$m = \frac{y_2 - y_1}{x_2 - x_1}$	$m = \frac{\text{change in } y}{\text{change in } x}$	$m = \frac{\text{Rise}}{\text{Run}}$	$m =$ The number that changes
<u>CAUTIONS:</u> <ul style="list-style-type: none"> Label your points. It helps to avoid mixing them up. Signs. It helps to use the template to avoid errors. $m = \frac{(\) - (\)}{(\) - (\)}$	<u>CAUTIONS:</u> <ul style="list-style-type: none"> Signs. Be sure to determine if your #s are increasing or decreasing. Change in y ALWAYS goes on top. If table is horizontal, x-values are on top of the table. 	<u>CAUTIONS:</u> <ul style="list-style-type: none"> You must pick two points that are clearly marked at "intersections". Read your graph from LEFT to RIGHT. Drawing arrows to indicate directions helps to avoid errors. 	<u>CAUTIONS:</u> <ul style="list-style-type: none"> Read the problem carefully. One # is usually a CONSTANT (fixed #) and the slope is the # that changes.