

## U10-5 Slope (m) from an Equation (linear function)

In class yesterday, you completed a table and graphed the following linear functions. You made slope triangles and found the slope of each line. Use your notes from yesterday, and write the slope (m) of each line in the second column.

Equation	Slope (m)	Equation	Slope (m)
1) $y = 6x$	m = _____	4) $y = \frac{1}{2}x$	m = _____
2) $y = \frac{1}{4}x$	m = _____	5) $y = -4x$	m = _____
3) $y = -2x$	m = _____	6) $y = x$	m = _____

Ex 1: Without graphing the following equation, how can you determine its slope?

$$y = 5x$$

- Is  $y = 5x$  a linear equation? \_\_\_\_\_ How do you know? \_\_\_\_\_
- What is the coefficient of x in the equation above? \_\_\_\_\_
- What is the slope of the line?  $m =$  \_\_\_\_\_

### The formula:

The formula for a linear equation (function) is:

$$y = mx$$

Where:

o  $m =$  \_\_\_\_\_

o  $y$  is the \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

o  $x$  is the \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

### Steepness.....

- The bigger the slope, the \_\_\_\_\_ the line.
- The smaller the slope, the \_\_\_\_\_ (or flatter) the line...

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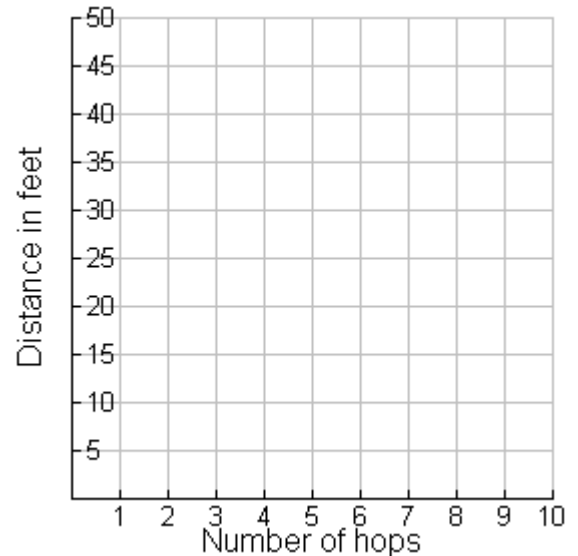
Find the slope of each line and then order them from least steep to most steep (**ignore the negative sign when determining steepness**)

Equation	Slope	Least step To Most steep
1) $y = \frac{2}{3}x$	m =	
2) $y = -x$	m =	
3) $y = 7x$	m =	
5) $y = 2x + 8$	m =	
7) $y = 10$ HmMMM.....	m =	

### Typing It All Together

The data in the table below is taken from a jackrabbit's number of hops and distance covered.

Number of hops	Distance covered (ft)
2	10
4	20
6	30
8	40
10	50



- 1) Plot the jackrabbit's data on the graph provided.
- 2) Does this graph go through the origin? \_\_\_\_\_
  - Why does this make sense for this scenario?
- 3) How would the graph look different if the jackrabbit hopped a shorter distance each hop?
- 4) What equation could be written to represent this data?  $y =$  \_\_\_\_\_
- 5) What does the *coefficient* represent in your equation? \_\_\_\_\_
- 6) What do you notice about the ratio of distance to hops?