

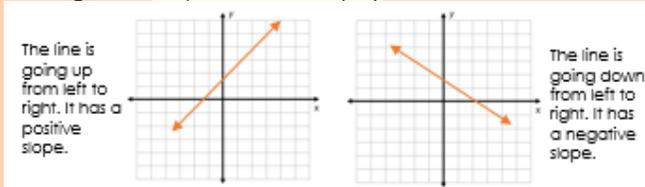
Packet 8: Slope and Slope-Intercept Form of a Line

Dear Parents/Guardians,

Packet 8 formally introduces the slope formula and the slope-intercept form of a linear equation. In Lesson 1, students use counting and then the formula to find the slope of a line. Lesson 2 brings back the cup and counter model in the Input-Output game to set the stage for the slope-intercept form of a line. In Lesson 3, slope-intercept form is formalized.

Slope of a Line

Roughly speaking, the slope of a line (m) is the slant of a line.



There are two ways students will find the slope of a line.

The Counting Method

Students will count (from one point to another point on the line) the vertical and horizontal change to find the slope.

The slope (m) of this line is $\frac{2}{3}$.

Calculating Slope

Students will find the coordinates of two points on the line and use this data to calculate the slope.

Point A: $(-2,3)$

Point B: $(1,1)$

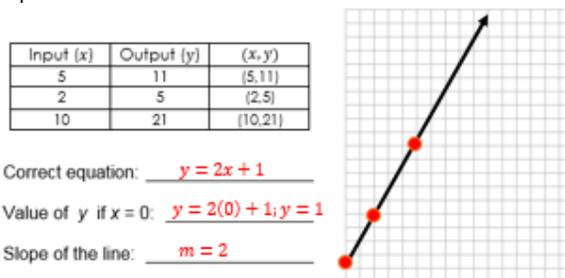
For the vertical change, subtract the y-coordinates: $1 - 3 = -2$

For the horizontal change, subtract the x-coordinates: $1 - (-2) = 3$

Slope(m) of \overline{AB} : $-\frac{2}{3}$

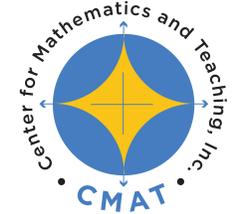
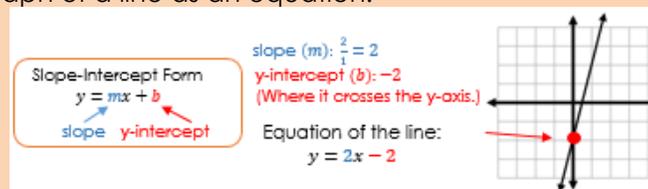
Input-Output Game

Students use the cups and counter model to play the Input-Output game. Please refer to Student Page 10 for instructions. Students will record their guesses and graph them as ordered pairs. They will generate the equation for the line.



Slope-Intercept Form

Students will represent the graph of a line as an equation.



Mathlinks 8

By the end of the packet, your student should know...

What the slope of a line represents and how to find the slope of a line

Lessons 8.1, 8.2, and 8.3

How to generate the equation of a line from an Input-Output chart or a graph

Lessons 8.2 and 8.3

How to write the equation of a line in slope-intercept form

Lessons 8.2 and 8.3

Additional Resources

Resource Guide, Part 1, pages 44-51

Tutorial for counting method to find slope:

<https://youtu.be/R948Tsyq4vA>

Tutorial for slope formula:

http://youtu.be/B6lP_RzXSzS