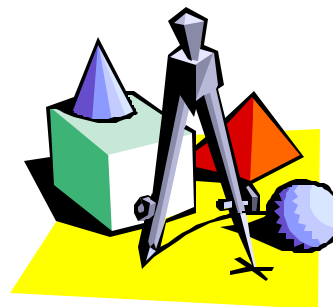


Algebra/Geometry Institute Summer 2003

Lesson 2

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School: GREENVILLE WESTON
City: GREENVILLE
Grade Level: 9 –THRU-12, ALGEBRA 1



1 Teaching objective(s) based on MS.FRAMEWORK, ALGEBRA 1

- Complete a function based on the given input and output data given in a table.

(a) Exploring the slope of a function using the input and output data given in a table.

1. positive slope
2. negative slope
3. slope of the horizontal line
4. slope of the vertical line

- Exploring the slope of a function using the ordered pairs in the form of the change in the y- coordinates
the change in the x- coordinates

1. using the formula, $m = \frac{y_2 - y_1}{x_2 - x_1}$ to find the slope.

2. using the formula, $y=m(x)+b$ to write an equation of a line.

2 Instructional Activities

The teacher's input, the teacher demonstrates to the class that the slope is the change in the y -coordinates divided by the change in the x-coordinates. The change in the y-coordinates, is called the rise, the change in the x-coordinates is called the run. The teacher will use real – life illustrations to give examples of slopes on the overhead . The teacher and the students will work together on this activity. The students will given a copy of the work that is shown on the overhead. The students will work at their seats while the teacher is illustrating on the overhead. The students will use his activity as a study guide, and as a class participation grade.

I.

A. The mountain runs 4000 ft. and rises 32,000 ft. what is the slope of the mountain?



B. The dimensions each step on the stairway is 4ft.x1ft what is the slope of the stairway ?.



C. This house has roof that is 30 ft across the front and back, and has height of 10 ft. what is the slope of this roof?



II. Teacher will explain to the students how to interpret the data in a table to give the slope, y-intercept and write an equation.

x	0	1	2	3	4	5	6
y	15	17	19	21	23	25	27

1. First lets identify the slope of the data given in the table. Don't forget to find the difference in the output which is known as the y-coordinates.
2. Remember when $x=0$, and it gives you a value for y, that y- value is your y-intercept.
3. Now you have the slope and the y-intercept, you are ready to write your equation.
4. Use this equation, $y=m(x)+b$, where slope is m, and b is the y- intercept. Substitute the values and now you have an equation.
5. The most important thing to remember is the rate of change must be constant to have a linear equation, or a linear function. Also, don't forget that the x variable is raised to the first power.

3 Materials and Resources

Algebra I Reteaching Masters. Holt, Rinehart and Winston, 2002. pgs. 5-6, 9-10.

4 Assessment

Students' papers will be checked and graded.