Name _____

Investigating Slope

Instructions: There are four parts to this activity. You will work with a partner and share a graphing calculator and a geoboard.

Part 1: The Brainstorm

- You will have 60 seconds to share everything you know about slope.
- Report your ideas to the class when the time is up.
- Add all the accurate ideas about slope to your journal section.
- Write in your journal about the difference between a slope of zero and a slope that is not defined. Be sure to include a labeled diagram of each of these slopes.

    How does the calculator interpret the value of an undefined slope and why? (Answer in your journal.)

Part 2: The Question
Read and think about your answer to this question: Which roller coaster is steeper?

- One that gains 20 ft of altitude for every 4 ft it travels horizontally OR

- One that gains 24 ft of altitude for every 6 ft it travels horizontally?

Part 3: Geoboard Slope

On your geoboard represent a slope of 2/3. Once your teacher has checked your work, continue to represent each slope listed below. Make sure your teacher checks each representation before continuing.

Represent: 1/4, 4/2, 3/3, 2/1, 0/3

Part 4: On your geoboard grid paper, make a sketch of the "stair steps" with the given steepness. The steepness ratio is the "rise" compared to the "run".

Represent on front of paper: 3/4, 3/1, 0/2
Represent on back of paper: -1/2, 3/3, -2/3, 4/0

Rise/Run: Given Two Points:

- Graph the points.
- Draw the right triangle connecting the points.
- Determine the slope of the line connecting the points.
- Label with the corresponding problem number.
- Graph two sets of points per graph:

   1. (0,0) and (5,8)
   2. (1,4) and (3,10)
   3. (3,2) and (6,4)
   4. (2,2) and (6,6)
   5. (10,2) and (4,8)
   6. (5,3) and (5,9)
   7. (9,1) and (5,7)
   8. (3,5) and (5,5)