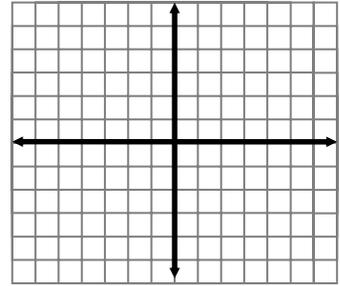


Slope Exploration

Name _____ Pd _____

Graph each pair of points and draw a line that contains both points.

1. A(1, 4), B(-2, 2)
2. M(0, -1), N(-3, 1)
3. X(2, 3), Y(3, -1)
4. In your own words, explain slope. _____



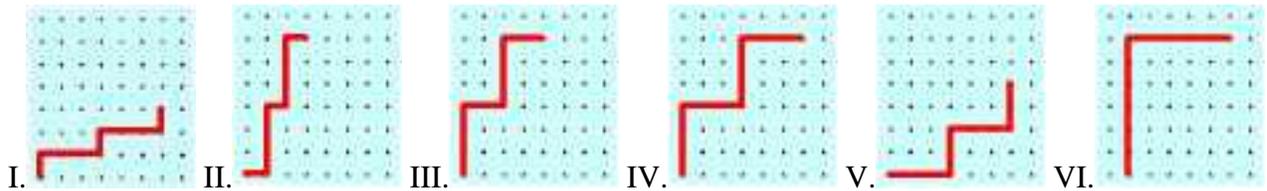
Given the following information about two wheelchair ramps:

- a) it gains 70 feet of altitude for every 900 feet it travels horizontally
- b) it gains 65 feet of altitude for every 825 feet it travels horizontally

5. Which wheelchair ramp is steeper? Explain your answer. _____

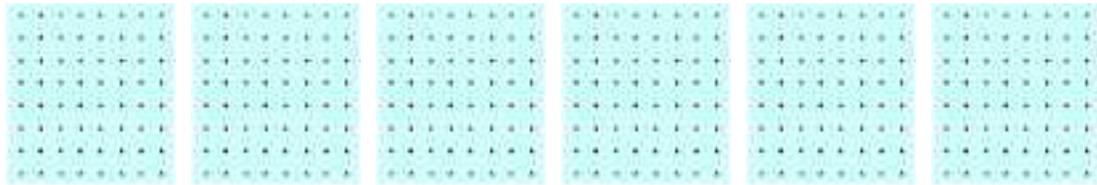
6. Match each stair step diagram with the ratio of measures (vertical/horizontal) that best describes the diagram.

- a. $\frac{3}{3}$ _____ b. $\frac{3}{2}$ _____ c. $\frac{2}{3}$ _____ d. $\frac{6}{5}$ _____ e. $\frac{1}{3}$ _____ f. $\frac{3}{1}$ _____



7. Make a sketch of stair steps with the given steepness. The steepness (ratio) is vertical measure (rise) compared to horizontal measure (run).

- a. $\frac{2}{1}$ b. $\frac{1}{2}$ c. $-\frac{2}{1}$ d. $\frac{1}{-2}$ e. $\frac{0}{-2}$ f. $\frac{1}{0}$

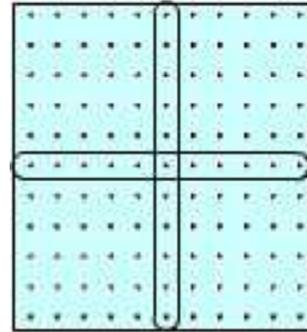


8. For each of the sketches above, describe whether the steps are increasing, decreasing, horizontal, or vertical.

- a. $\frac{2}{1}$ b. $\frac{1}{2}$ c. $-\frac{2}{1}$ d. $\frac{1}{-2}$ e. $\frac{0}{-2}$ f. $\frac{1}{0}$

9. Using problems 6 – 7 as a guide, write an explanation of slope in mathematical terms. _____

Use a geoboard to model the concepts you have learned so far. The dot paper models a coordinate grid on a geoboard.

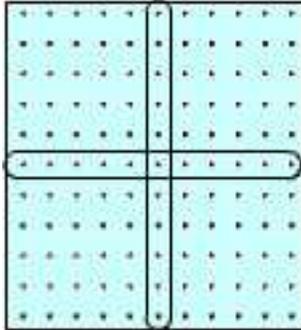


10. How are the axes represented? _____

11. Where is the origin located? _____

Stretch a rubber band between the following points and draw your model on the dot paper provided.

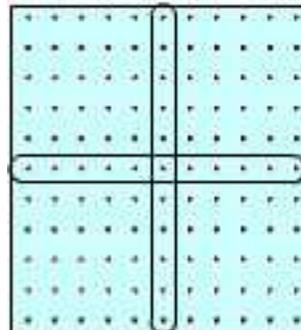
12. (1, 2), (2, 3)



What is the rise? _____ run? _____

What is the slope? _____

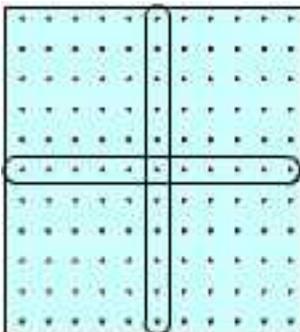
13. (-2, -3), (3, 2)



What is the rise? _____ run? _____

What is the slope? _____

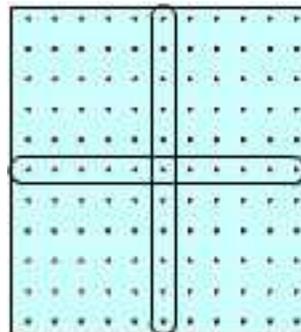
14. (-1, -3), (-3, -4)



What is the rise? _____ run? _____

What is the slope? _____

15. (2, -3), (2, 2)



What is the rise? _____ run? _____

What is the slope? _____

16. Investigate the difference in x-coordinates and the run and between the difference in y-coordinates and the rise. Write a procedure for finding the slope of a line when given the coordinates of two points on the line. _____

17. By looking at a line or steps, how can you determine whether the slope is positive or negative? Explain how you remember the difference between positive and negative slopes. _____

18. Think of other examples of things in the real world that have slope. _____
