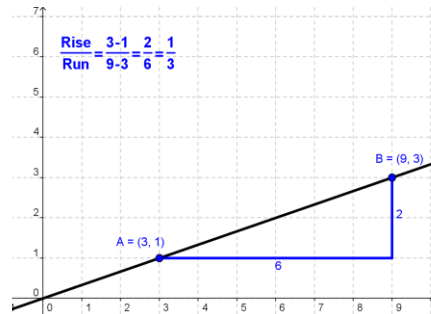


Student Activity on Slope

Use in connection with the interactive file "Slope" on the Student's CD.

To explore the properties of slopes



The slider called "Step" is used to change the information on the screen.

To start set the slider to "Step = 1"

1. The Line $x - 3y = 0$ has been plotted. Let's take a look at two points on this line, the points (3,1) and (9,3). To get from (3,1) to (9,3) how many units do you need to move up? _____
2. This number is called the RISE. The RISE is _____
3. To get from (3,1) to (9,3) how many units do you need to move across? _____
4. This number is called the RUN. The RUN is _____
5. The ratio between the rise and the run is called the SLOPE.

The Slope = $\frac{\text{Rise}}{\text{Run}} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$

6. Looking at the points, which values do you compare to work out the RISE? _____

7. Looking at the points, which values do you compare to work out the RUN? _____

8. Move the “Step” slider to 2.

Move the two blue dots over any two black dots. Take note of the slope and try two different black dots. What do you notice about the slope between any two points on the line? _____

9. Move the “Step” slider to 3. Drag the points round creating many different lines that all go upwards from left to right. What is always true about the slopes of these lines? _____

10. Drag the points round creating slopes that go downward from left to right. What is always true about the slopes of these lines? _____

11. What is the slope of a line that doesn’t go up or down? _____

12. If you keep the rise the same and increase the run describe what happens to the slope? _____

13. If you keep the run the same and increase the rise describe what happens to the slope? _____

14. If you keep the rise the same and decrease the run describe what happens to the slope? _____

15. If you keep the run the same and decrease the rise describe what happens to the slope? _____

16. Move the “Step” slider to 4, 5, 6 etc. and adjust the sliders to calculate the slope between the two points you are given. **Note:** Try and do a couple of these questions without using the “Hint”.