

Understanding the Relationship Between Parallel and Perpendicular Lines.

Investigating Parallel Lines

Use a communicator to draw two parallel lines. Place a ruler on the grid and then draw on both sides of the ruler.

Name several coordinates on each of the lines.

Describe the steepness of each line (slope).

Compare your information with the information collected by other students in the room.

What relationship do you notice between all the lines?

Clear the parallel lines. Fold a sheet of paper twice to create two edges that are parallel.

Place the folded sheet of paper on the grid and then draw on both sides of the paper.

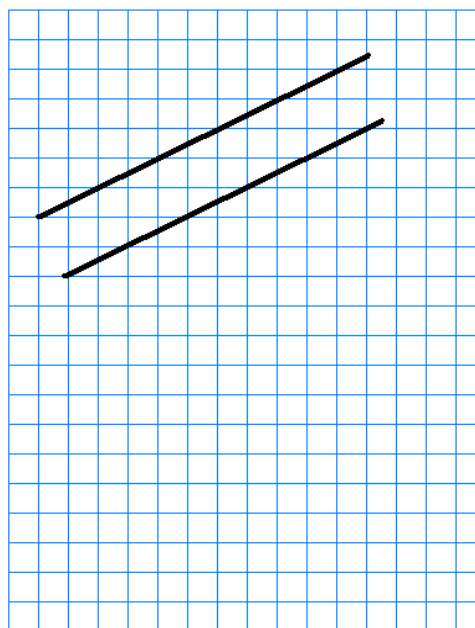
Name several coordinates on each of the lines.

Describe the steepness of each line (slope).

Compare your information with the information collected by other students in the room.

What relationship do you notice between all the lines?

Clear the communicator. Draw a line. Then use the relationship you described to produce a parallel line.



Investigating perpendicular lines.

Draw a line on the communicator using a straight edge. Select a point on that line. Using a corner of a sheet of paper, place the corner at the point and line up one edge of the paper along the drawn line. Draw along the other edge of the paper. You should have perpendicular lines.

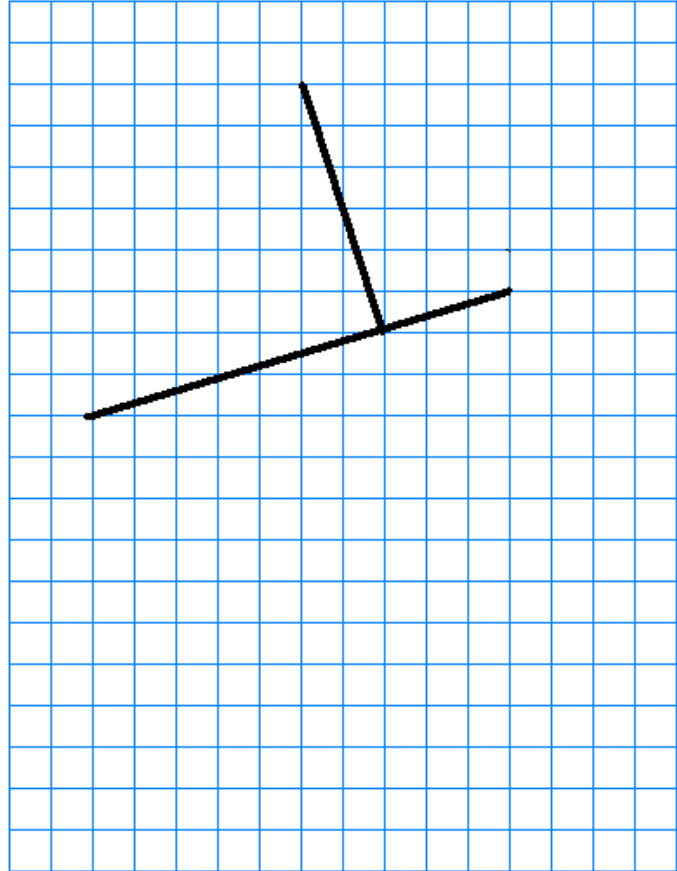
Label several points on each of the two lines.

Determine the steepness of the two lines. (Slope)

What do you notice about the two slopes?

Why can the slopes be equal?

Compare your slopes and lines with someone else in the room. What do you notice?



Clear the drawing and repeat the process again.

Does the same relationship hold true?

Draw one line on the communicator. Name two points on the line. Draw a second line that is perpendicular to the first line.

How do you know the lines are perpendicular?

What do you notice about their steepness (slope)?