

THE CARTESIAN PLANE

The xy -plane is also called the _____ plane and is named after the mathematician _____.

The horizontal axis is called the _____ - axis and the _____ axis is called the y -axis.

The x -axis and y -axis meet at the _____. All points can be labeled with _____ and expressed as ordered pairs, (_____, _____).

The xy -plane is divided into _____ quadrants, called quadrants 1, 2, 3, and 4. (I,II,III,IV)
Always label the axes and mark the scale, as shown, on the xy -plane.

ACTIVITY:

Use this xy -plane to complete questions 1 to 3.

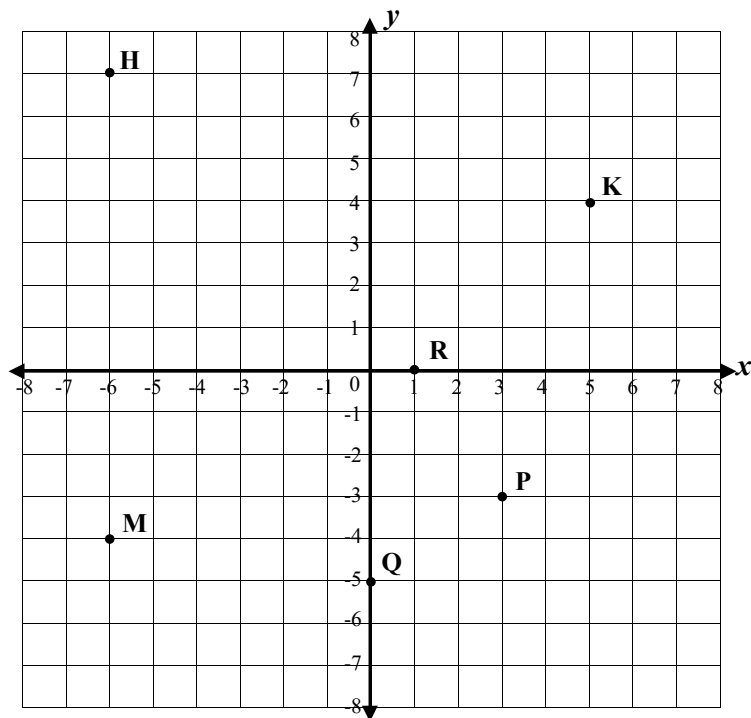
1. State the coordinates of each point.

H: _____ K: _____

M: _____ P: _____

Q: _____ R: _____

2. Identify where each of the four quadrants are located.



3. Graph these points on the xy -plane above. Include the labels (the capital letter).

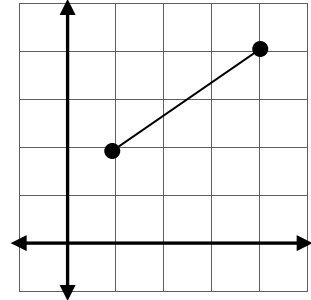
A(2, 3) B(5, -1) C(-2, 3) D(-4, -5) E(0, 3) F(-4, 0)

SLOPE

Linear Relation: The _____ between _____ variables that appears as a _____ on a _____

Slope: Measures the _____ of a _____.

- It measures the “_____” of one point with respect to another point.
- Ask: For every unit change in “_____”, how much does “_____” change?



RISE: The _____ distance between _____ points on a _____

RUN: The _____ distance between _____ points on a _____

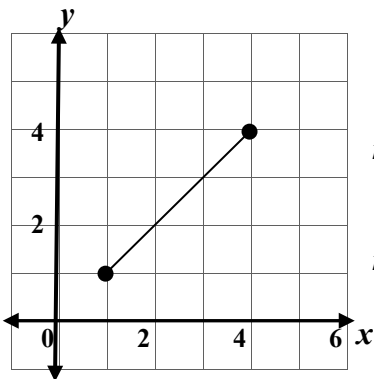
CALCULATING SLOPE:

The variable used to represent slope is “_____”

To calculate slope, use the equation:

Slope (m) = _____

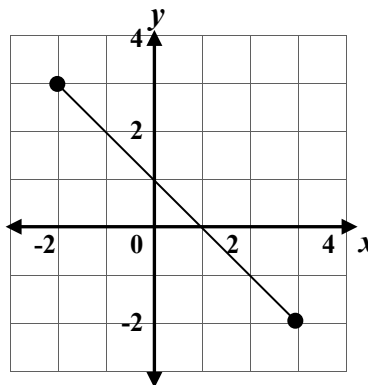
Examples:



$$m = \frac{\text{rise}}{\text{run}}$$

$m =$

$m =$



POSITIVE vs. NEGATIVE SLOPE

Positive Slope: Follow the line from left to right: the _____ goes _____.

Negative Slope: Following the line from left to right: the _____ goes _____.