
SLOPE


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Building stairs should not exceed a slope of 0.83

Types of Slope

Calculating slope!

When given the graph:

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

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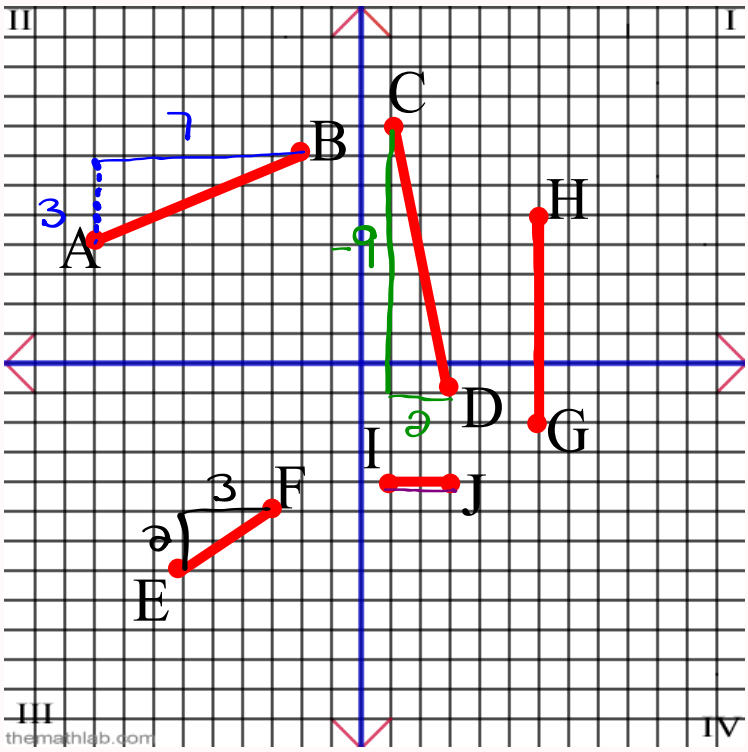

$$\text{slope} = \frac{\text{rise}}{\text{run}}$$

This is used when you can see the graph!

AB = $\frac{3}{7}$

CD = $\frac{-9}{2}$

EF = $\frac{2}{3}$

GH = $\frac{7}{0}$ = undefined (Vertical ↕)

IJ = $\frac{0}{2} = 0$ (Horizontal ↔)

Slope of a Horizontal Line = 0

$= 0 = \frac{0}{1}$

Slope of a Vertical Line = Undefined or 1/0

$= 1/0$ or Undefined $= \frac{1}{0}$

Calculating slope!

$m = slope = \frac{y_2 - y_1}{x_2 - x_1}$

Calculating slope!

m = slope

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Find the slope of a line passing through the points (2,-3) and (-5,8).

(x_1, y_1) (x_2, y_2)

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

This is used when you are given co-ordinates.

$$m = \frac{8-(-3)}{-5-2}$$

$$m = \frac{8+3}{-5-2}$$

$$m = \frac{11}{-7} = -\frac{11}{7}$$

Find the slope of a line passing through the points (-5, -7) and (-3,9).

(x_1, y_1) (x_2, y_2)

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{9-(-7)}{-3-(-5)}$$

$$m = \frac{9+7}{-3+5}$$

$$m = \frac{16}{2} = 8$$

Find the slope of a line passing through the points (6, -4) and (-2,10).

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

(x_1, y_1) (x_2, y_2)

$$m = \frac{10 - (-4)}{-2 - 6}$$

$$m = \frac{10 + 4}{-2 - 6}$$

$$m = \frac{14}{-8} = -\frac{7}{4} \left(\frac{\text{rise}}{\text{run}}\right)$$

Calculate the slope.

1. (3,5) (2,8)

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{8-5}{2-3}$$

$$m = \frac{3}{-1}$$

$$m = \frac{-3}{1_1}$$

2. (-9,-2) (7,3)

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{3-(-2)}{7-(-9)}$$

$$m = \frac{3+2}{7+9}$$

$$m = \frac{5}{16}$$

3. (-1,2) (0,-4)

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{-4-2}{0-(-1)}$$

$$m = \frac{-4-2}{0+1}$$

$$m = \frac{-6}{1}$$