

TERMS TO KNOW

- Slope
- M
- Delta
- Rise
- Run
- Numerator
- Denominator
- Δ
- X-axis
- Y-axis
- Linear

Note: This teacher really likes graphs fully labeled (axes, points, etc) pages: 178-180 Section 3.1

Question: What if the line doesn't rise nor fall - but remains the same?

Math 72

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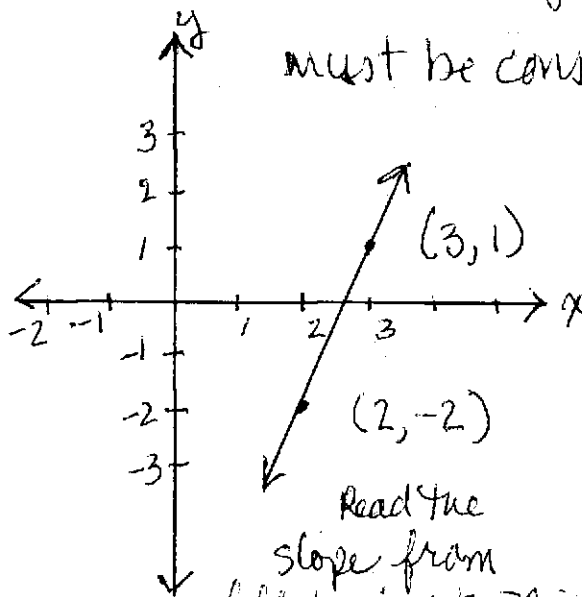
Slopes

A slope of a line measures steepness. Slope is represented by the letter M

$$M = \frac{\text{Change in } y}{\text{Change in } x} \text{ or } \frac{\text{rise}}{\text{run}} \text{ --- "over"}$$

Δ = Delta symbol represents change = read Δ as "delta", like $\Delta y = \text{delta } Y$

$m = \frac{\Delta y}{\Delta x}$ y is always the numerator x is always the denominator



must be consistent i.e. $\frac{y_1 - y_2}{x_1 - x_2}$

or

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

$$m = \frac{(1) - (-2)}{3 - 2}$$

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

$$= 3$$

Read the slope from left to right, if it

rises - slope is positive.

if it falls, slope is negative.

Summary Section

This lecture was about the slope of a line. The above example shows a positive slope of 3 over 1. (For every space over, the line rises up 3. As the slope goes from left to right, since it rises, it is a positive number, (+3). If the slope would have been negative, the line would have fallen as it went from left to right.