82

Notes:

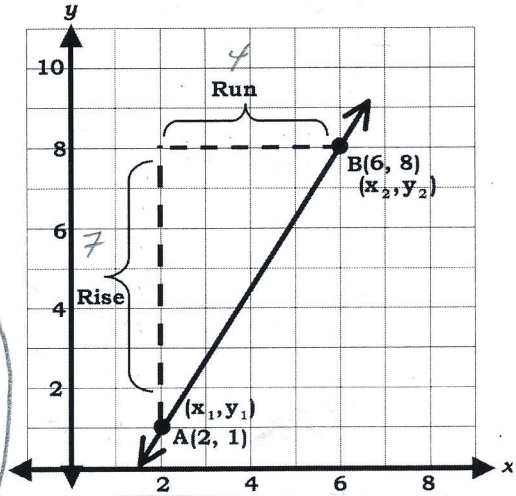
Slope Formula

Created for you by Ms. Nhotsoubanh

Aim: Finding the slope of a line using the **SLOPE FORMULA**.

The slope of a line refers to its steepness, also known as the rise over the run.

$$slope(m) = \frac{rise}{run} = \frac{\Delta y}{\Delta x}$$



Ex1: Find the slope of line AB.

The slope of line AB is $\frac{7\uparrow}{4\rightarrow}$.

Now let's use the **Slope Formula** to find the slope of line AB.

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

(x y)
A(2, 1)
B(6, 8)

$$m = \frac{(1)-(8)}{(2)-(6)}$$

$$m = \frac{-7}{-4}$$

$$m = \frac{7}{4}$$

same

Slope Formula:
A(x_1, y_1) and B(x_2, y_2)

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

OR

Slope Formula

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

Name: Key

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Glue on page 82

points. **Use the slope formula.**

1. $(-12, 8)$; $(2, -4)$

$x_1 y_1 \quad x_2 y_2$

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

$$m = \frac{(8) - (-4)}{(-12) - (2)}$$

$$m = \frac{12 \div 2}{-14 \div 2} = \frac{6}{-7} = -\frac{6}{7}$$

2. $(-7, 6)$; $(-14, -3)$

$x \quad y \quad x \quad y$

$$m = \frac{(6) - (-3)}{(-7) - (-14)}$$

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

3. $(-11, 20)$; $(9, -2)$

$x \quad y \quad x \quad y$

$$m = \frac{(20) - (-2)}{(-11) - (9)}$$

$$m = \frac{22}{-20} = \frac{11}{-10}$$

4. $(7, -7)$; $(7, 4)$

$x \quad y \quad x \quad y$

$$m = \frac{(-7) - (4)}{(7) - (7)}$$

$$m = \frac{-11}{0} = \text{no slope or undefined slope}$$

5. $(0, -9)$; $(16, 3)$

$x \quad y \quad x \quad y$

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

$$m = \frac{(-9) - (3)}{(0) - (16)}$$

$$m = \frac{-12}{16} = \frac{-3}{4}$$

6. $(-1, 6)$; $(-12, -5)$

$x \quad y \quad x \quad y$

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

$$m = \frac{(6) - (-5)}{(-1) - (-12)}$$

$$m = \frac{11}{11} = 1$$

7. The points in the table lie on a line. Find the slope of the line.

x	−3	2	7	12
y	0	2	4	6

+5 +5 +5

Δy +2 +2 +2

$$m = \frac{\Delta y}{\Delta x}$$

$$m = \frac{5}{2}$$

Directions: The points in the table lie
the line.

1. ΔX +2 +2 +2

x	1	3	5	7
y	2	5	8	11

Δy +3 +3 +3

$$m = \frac{\Delta y}{\Delta x} = \frac{3}{2}$$

2. Δ

x
y

Δy

m.

3. The cost y (in dollars) to rent a kayak
number x of hours that you rent the kay
kayak for 3 hours. $m = \frac{\Delta y}{\Delta x} =$

a. Write an equation that represents th

b. Interpret the slope. It cost
hour to rent the

c. How much does it cost to rent the k
equation in part a.

$y = 9x$

$y = 9(5)$

$y = 845$

Use pages 83 - 84 to st

4. Solve for x:

$$\frac{4x - 3}{8} = \frac{2x}{5}$$

5. So

Include Textbook page 578 #s 13 – 18,
Please start studying for