

Unit 4

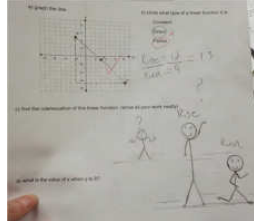
L4 Rate of change

- Rate of change (R.O.C) is also known as Rate of variation, Slope, and Rise over Run
- Given points $A(x_1, y_1)$ & $B(x_2, y_2)$ on a line, then the rate of change between points A & B is :

R.O.C. = $\frac{\Delta y}{\Delta x}$; Δ : difference or change (in T.O.V)

= $\frac{y_2 - y_1}{x_2 - x_1}$ given 2 points

or = $\frac{\text{rise}}{\text{run}}$ given a graph

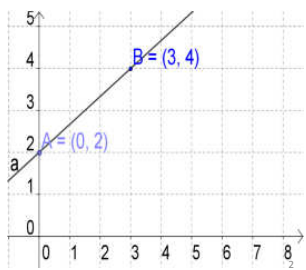


Ex 1: Given points A(0,2) and B(3,4)

• R.O.C. = $\frac{\Delta y}{\Delta x}$

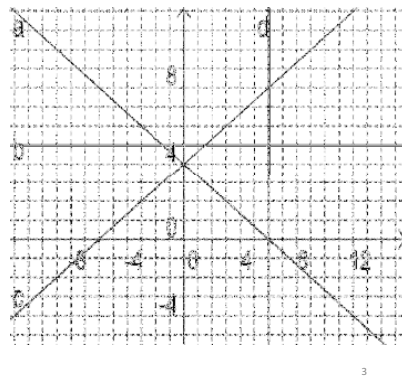
X	Y
0	2
3	4

• Or Count $\frac{\text{rise}}{\text{run}} =$



Ex 2: Find the slope of each line on the grid:

- Slope of line:
- a:
- b:
- c:
- d:



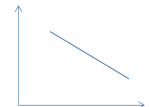
- On a straight line the ROC is constant (the same) no matter which 2 points we pick.
 - Where as on a curve the ROC changes (is not constant) along the curve.

• 4 possible slopes are noted:

1. Positive slope :



2. Negative slope:



3. Zero slope:



4. Undefined slope:



Ex 3: Find the slope of the following:

a) A(1, 3) B(2, 5)

b) C(-1, 5) D(4, 8)

$\frac{\text{rise}}{\text{run}} = \frac{y_2 - y_1}{x_2 - x_1}$

=

=

=

$\frac{\text{rise}}{\text{run}} = \frac{y_2 - y_1}{x_2 - x_1}$

Find the value of c

Ex 4: The slope is 2
G(0, -5) and B(c, 3)

Ex 5: The slope is 1/2
S(-1, 2) and T(c, 6)

Find the rate of Change for the Following

Ex 6: Jen earns \$220 for 20 hours of work. For 10 hours of work she earns \$120. What is her hourly rate?

Practice:

4.4 # 1-3

WS #1 Finding the Rate of change

