

Name: _____

Date: _____

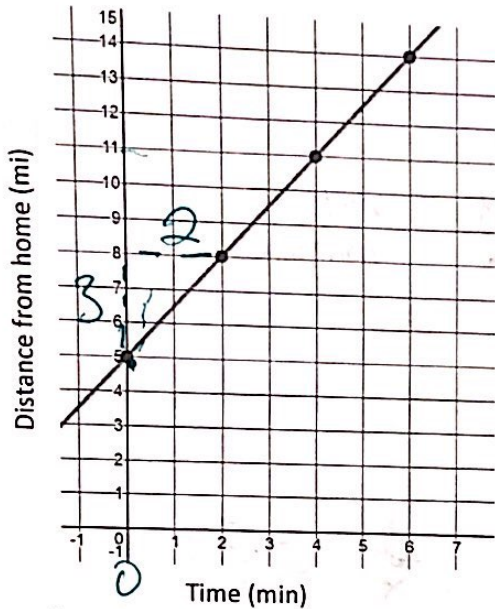
Hour: _____

Unit 3A Day 5: Rates of Change and Tables

Focus Question: How do I find the rate of change from a table?

A. Tables and Graphs

1. Turn the graph below into a table.



The X *Dependent* variable always goes here

The Y *Independent* variable always goes here

0	+2	5	+3
2	+2	8	+3
4	+2	11	+3
6	+2	14	+3

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

2. Find the rate of change using the graph. Explain what the slope means.

$\frac{3}{2}$ rises 3 goes to the right 2

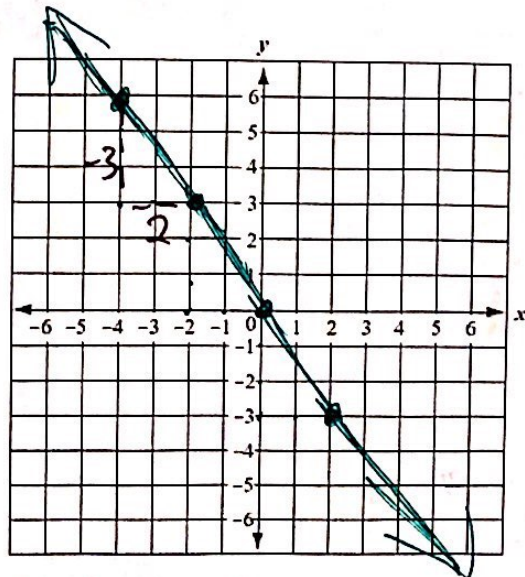
3. Using the table, could you find the same rate? Explain.

yes, we find the change in the y-values and the change in x-values

4. Turn the table below into a graph.

X	Y
-4	6
-2	3
0	0
2	-3

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



5. Find the rate of change using the graph. Explain what the slope means.

6. Using the table, could you find the same rate? Explain.

7. Which part of the following is most helpful to finding rate of change from a table?

$$\text{Slope} = \text{Rate of Change} = \frac{\text{Change in D.V.}}{\text{Change in I.V.}} = \frac{\text{Change in Y axis}}{\text{Change in X axis}} = \frac{\text{vertical Change}}{\text{horizontal Change}} = \frac{\text{Rise}}{\text{Run}}$$

B. Practice: Find the slope (rate of change) on each table below. Then explain what the rate means.

Saturday Resort Attendance

Probability of Rain (%)	0	20	40	60	80	100
Big Fun Attendance	1,000	850	700	550	400	250

$$\frac{y}{x} = \frac{-150}{20}$$

-150 -150 -150

Every 20% increase of rain the attendance drop by 150 people

Canoe Rental Time (min)	10	20	30	40	50	60
Rental Charge (dollars)	4.00	5.50	7.00	8.50	10.00	11.50

dollars
min

$$\frac{1.50}{10}$$

Every 10 minutes of rental time, the charge goes up \$1.50

As X increases Y increases

x	y
0	-4
1	-2
2	0
3	2
4	4

$$\frac{y}{x} \rightarrow \frac{2}{1}$$

number of sodas	bags of popcorn
0	10
3	8
6	6
9	4
12	2
15	0

$$\frac{y}{x} \rightarrow \frac{-2}{3}$$

As the # of sodas increases by 3 bags of popcorn decreases by 2.

Temperature (°C)	Volume of Gas (mL)
20	60
40	65
60	70
80	75
100	80

$$\frac{y}{x} = \frac{5}{20}$$

As the temp increases by 20°C the volume of gas increases by 5mL.