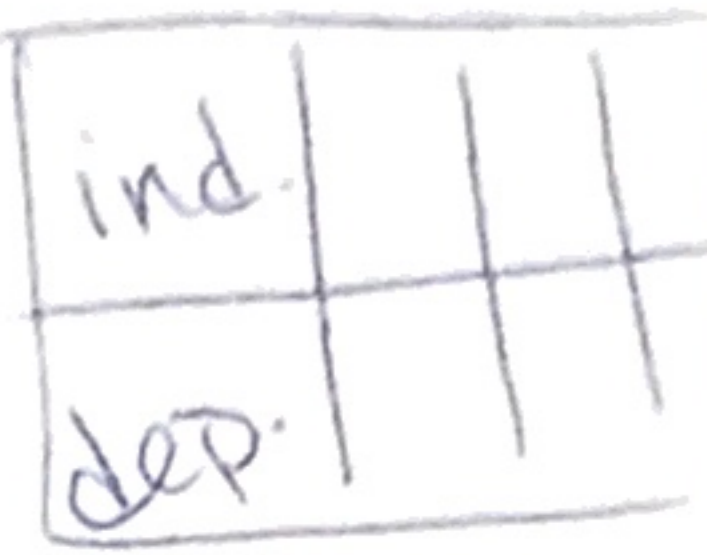


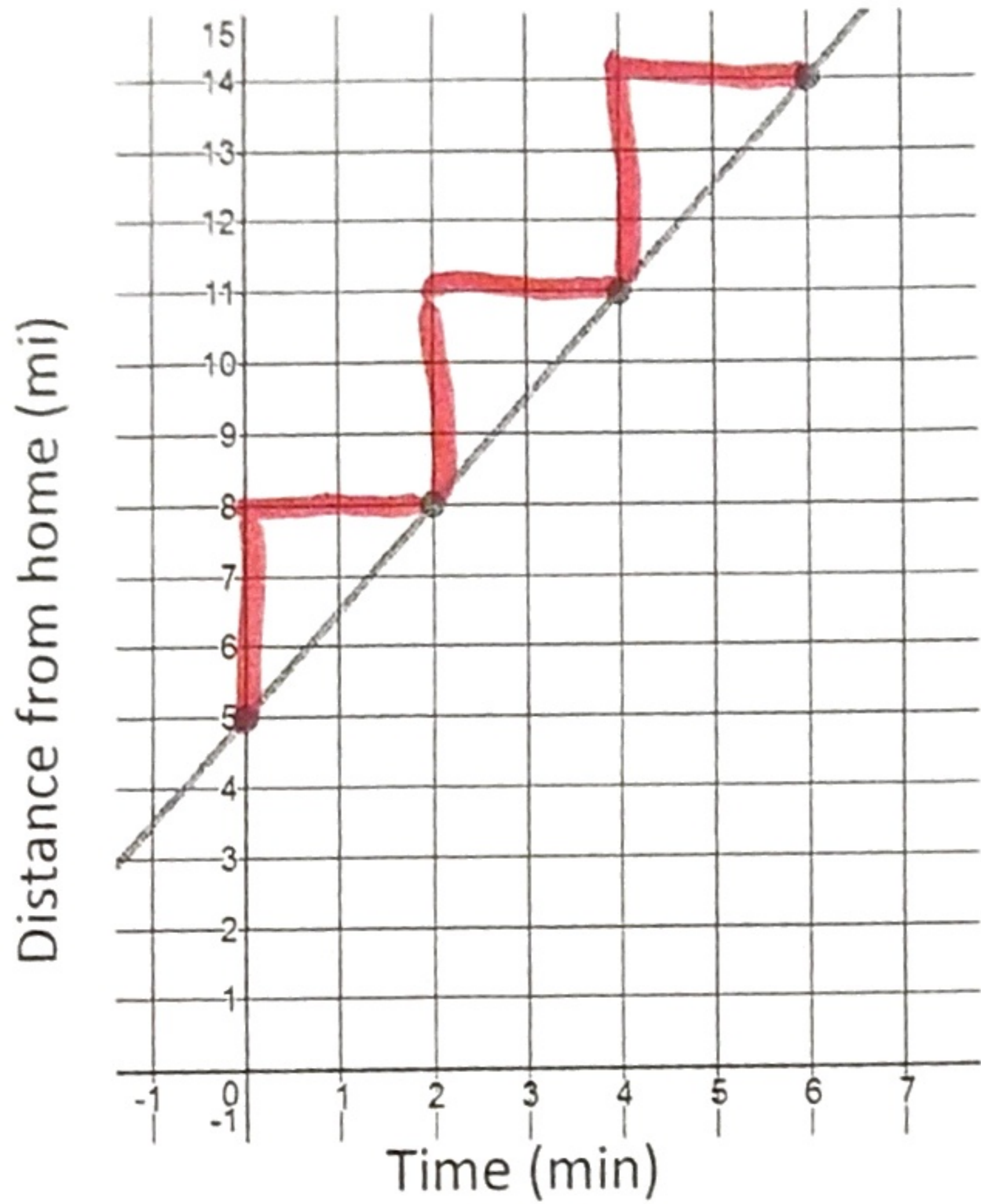
Unit 3a Day 4: Rates of Change and Tables

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 ind variable always goes here

The dep variable always goes here

Time (min)	Dist. (mi)
0 +2	5 +3
2 +2	8 +3
4 +2	11 +3
6	14

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

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

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

The distance increases 3 miles every 2 min.

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

Yes by finding the difference between the #'s in each column

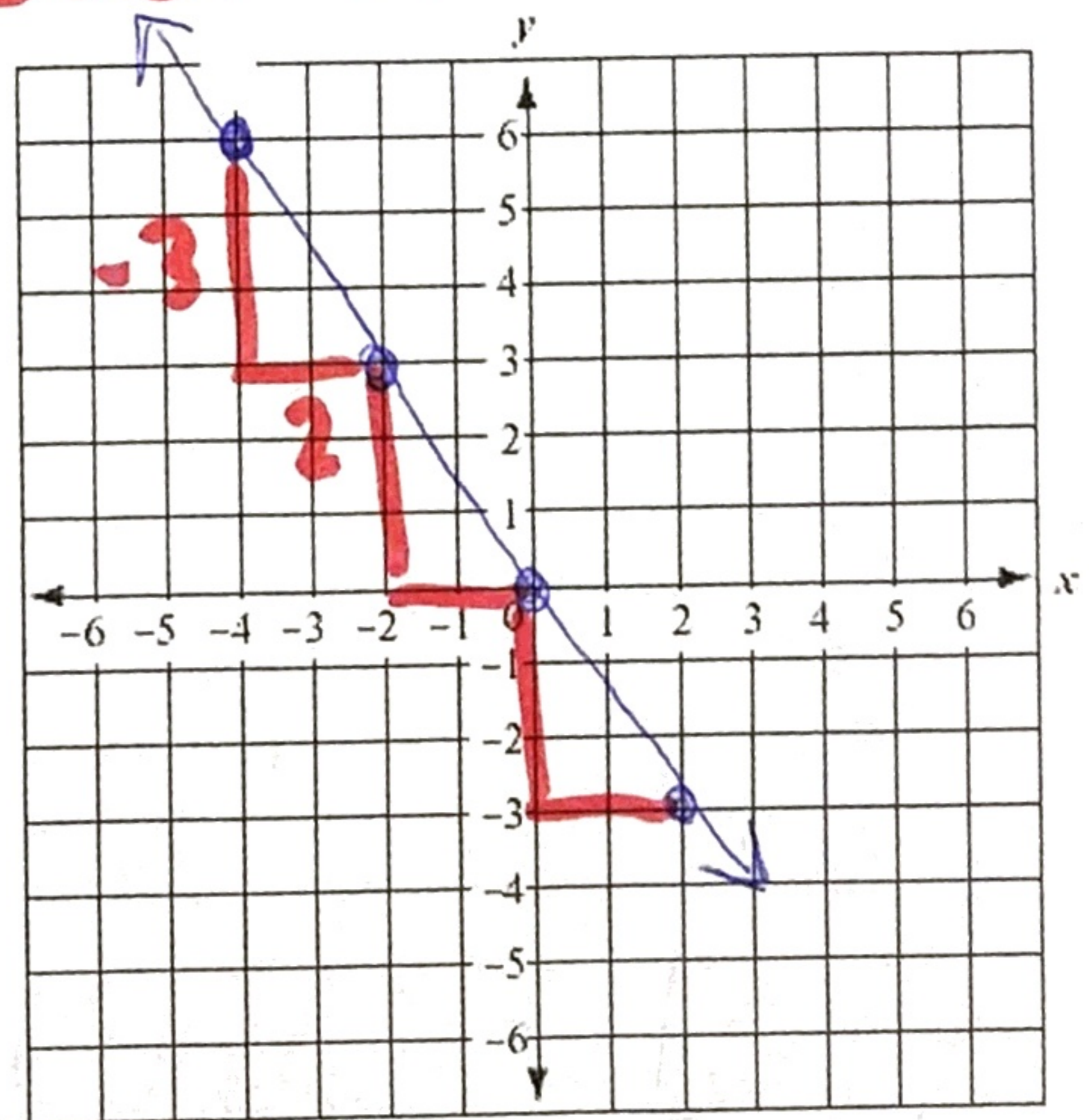
4. Turn the table below into a graph.

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

$\Delta x = 2$

$\Delta y = -3$

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



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

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

The y goes down 3 every time the x goes up 2.

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

Yes (see #3)

7. Explain how you could find the rate of change from a table without making a graph.

see #3 fraction $\frac{\Delta y}{\Delta x}$

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

Saturday Resort Attendance

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

$\Delta x = 20$
 $\Delta y = -150$

$\frac{\Delta y}{\Delta x} = \frac{-150}{20}$ $m = \frac{-15}{2}$

The Big Fun Attendance goes down 15 people every 2% chance of rain.

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

$\Delta x = 10$
 $\Delta y = 1.50$

$\frac{\Delta y}{\Delta x} = \frac{1.50}{10}$

$m = \frac{3}{20}$

The charge increases \$3 every 20 min.

x	f(x)
0	-4
1	-2
2	0
3	2
4	4

$\Delta x = 1$ $\Delta y = 2$

$m = \frac{2}{1}$ or $m = 2$

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

$\Delta x = 3$ $\Delta y = -2$

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

The bags of popcorn decreases by 2 bags every 3 sodas

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

$\Delta x = 20$ $\Delta y = 5$

$\frac{\Delta y}{\Delta x} = \frac{5}{20}$ $m = \frac{1}{4}$

The gas increases 1 mL for every 4°C