

Name: \_\_\_\_\_

## CCM1B FLEX: More Practice with Slope & Rate of Change

### Part I: Calculating the Slope given two points

Slope Formula:

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

$x_1, y_1, x_2, y_2$

Example 1: Find the slope of the line that passes through the points (-8, 5) and (-3, -7).

$$\frac{-7 - 5}{-3 - -8} =$$

Example 2: Find the slope given (-9, 3), (-9, 18)

Example 3: Find the slope given (6, 4), (-5, 4)

### Part II: Calculating the "r" value

Example 1: Given the slope of a line is  $\frac{7}{13}$  and the line passes through the points (r, -1) and (3, -8), find r.

$$\frac{7}{3} = \frac{-8 - -1}{3 - r} \quad \text{simplify:} \quad \frac{7}{3} = \frac{-7}{(3-r)} \quad \text{cross multiply}$$

$$7(3-r) = -21$$

Solve:

$$21 - 7r = -21$$

$$-7r = -42$$

$$\boxed{r = 6}$$

You Try!: Given the slope of a line is 2 and the line passes through the points (2, r) and (3, -6), find r.

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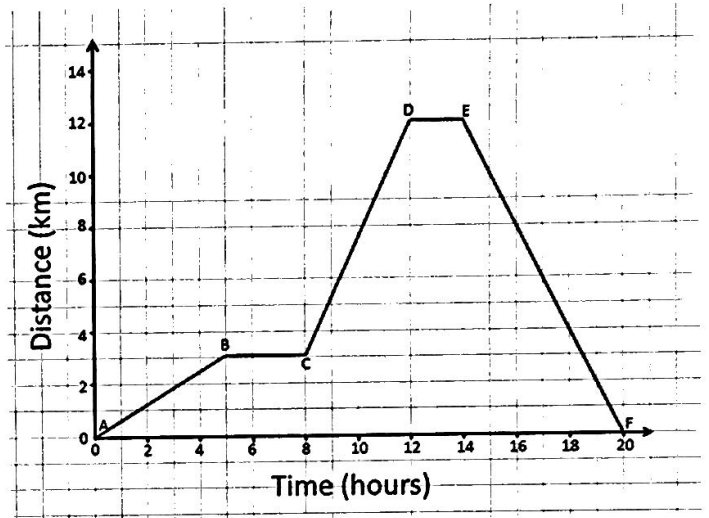
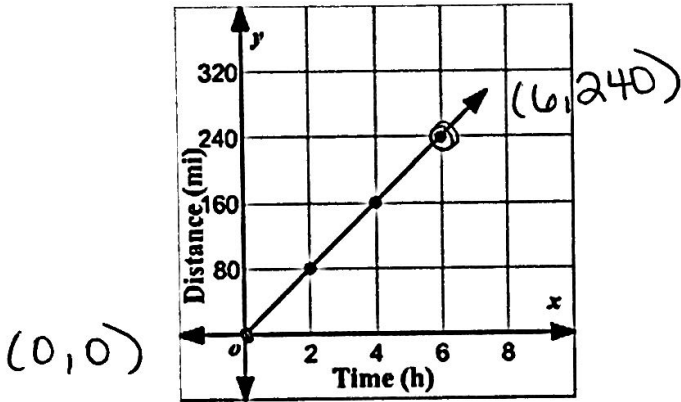
### Part III: Calculating the Slope/Rate of Change from a Graph:

**Example 1:** Calculate the rate of change from 0 to 6 hours.

**Example 2:** Calculate the rate of change from 14 to 20 hours

(Be sure to include units!)

(Be sure to include units!)



$$\frac{240-0}{6-0} = \frac{240}{6} = 40 \text{ mi/hr}$$

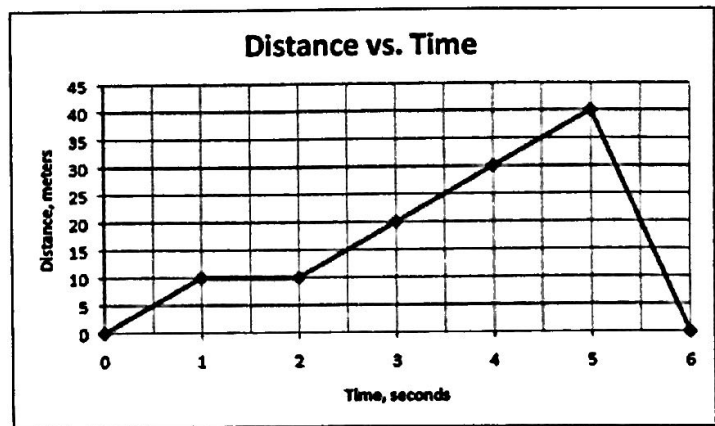
Rate of change: \_\_\_\_\_

Rate of change: \_\_\_\_\_

**You Try!**

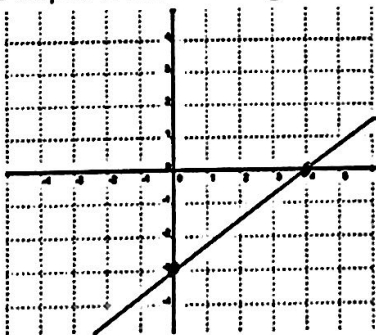
1. Given the graph, answer the following questions: (Be sure to include units)

- What is the rate of change from 2 to 5 seconds?
- What is the rate of change from 5 to 6 seconds?
- What is the rate of change from 1 to 2 seconds?



2. Find the slopes of the following lines:

a.  $\frac{3}{4}$



b. \_\_\_\_\_

