

Slope: rate of change: m

Name: _____

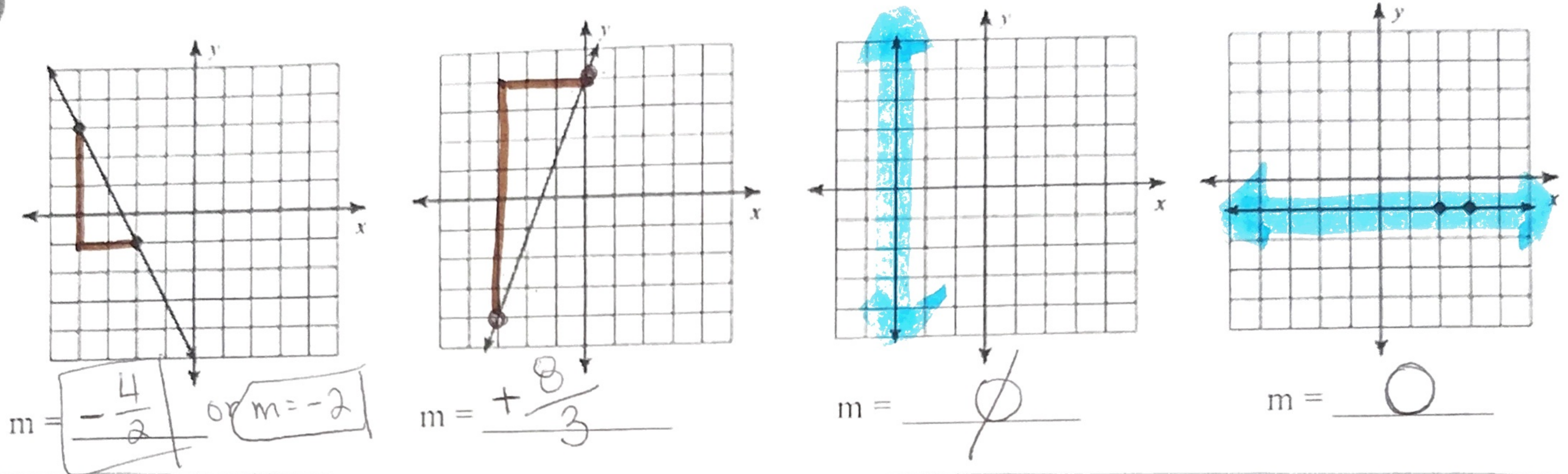
Date: _____

Hour: _____

Unit 3A Day 11: Review Rate of Change

Focus Question: Can I find slope from multiple representations?

I can find slope from a graph. _____



I can find slope from a table. _____

| X | Y |
|----|----|
| -2 | -3 |
| -1 | -1 |
| 0 | 1 |
| 1 | 3 |
| 2 | 5 |

$m = \frac{\Delta y}{\Delta x} = \frac{+2}{1} = 2$

| X | Y |
|----|----|
| -4 | 6 |
| 0 | 4 |
| 4 | 2 |
| 8 | 0 |
| 12 | -2 |

$m = \frac{\Delta y}{\Delta x} = \frac{-2}{4} = -\frac{1}{2}$

| X | Y |
|----|---|
| -4 | 4 |
| -1 | 3 |
| 2 | 2 |
| 5 | 1 |
| 8 | 0 |

$m = \frac{\Delta y}{\Delta x} = \frac{-1}{3}$

| X | Y |
|----|---|
| 6 | 2 |
| 3 | 2 |
| 0 | 2 |
| -3 | 2 |
| -6 | 2 |

$m = \frac{\Delta y}{\Delta x} = \frac{0}{-3} = 0$

I can find slope given two points. _____

What is the formula for slope? $\frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$

Points: (-3, 4) and (5, -2)

$$m = \frac{-2 - 4}{5 - (-3)} = \frac{-6}{8} = -\frac{3}{4}$$

Points: (4, 2) and (6, 8)

$$m = \frac{8 - 2}{6 - 4} = \frac{6}{2} = 3$$

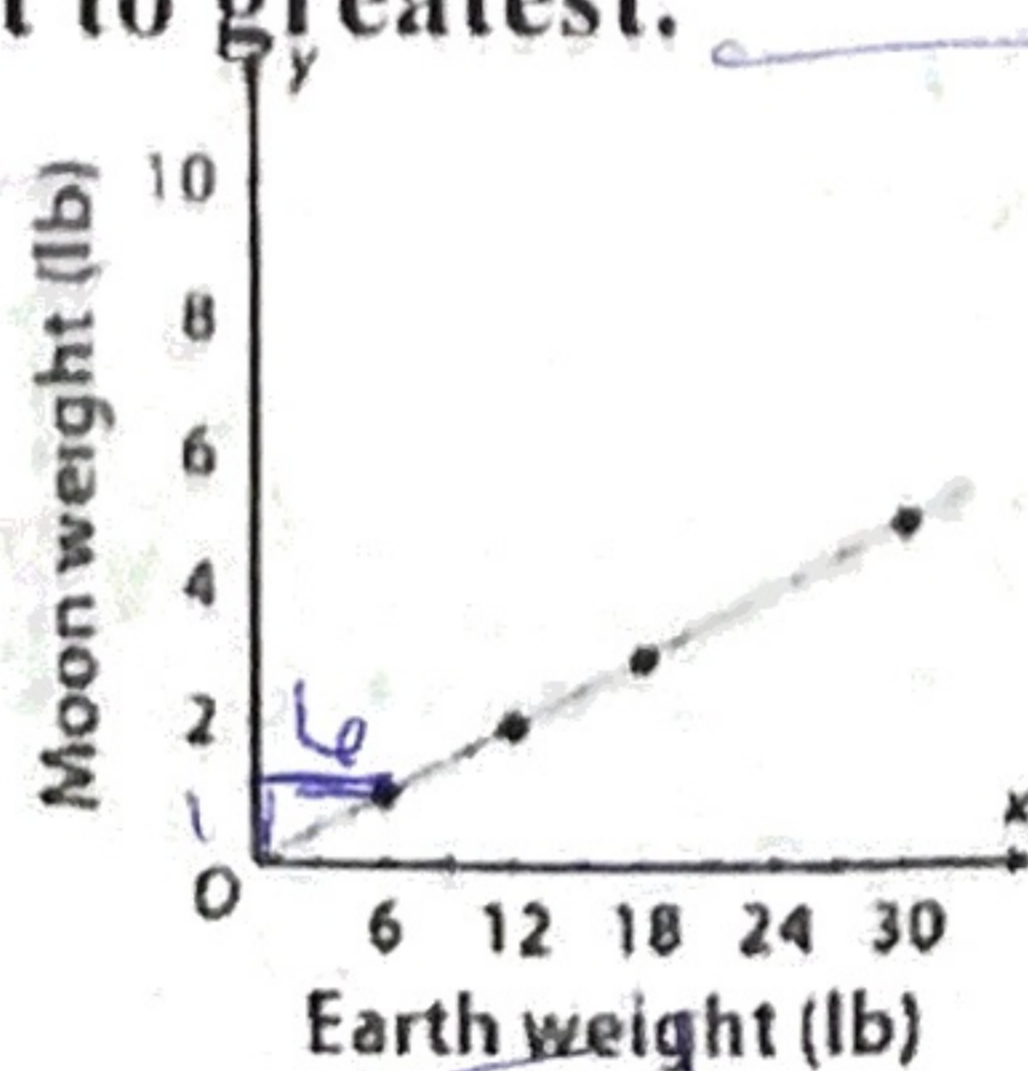
Points: (-4, -5) and (13, -5)

$$m = \frac{-5 - (-5)}{13 - (-4)} = \frac{0}{17} = 0$$

I can put rate of change in order from least to greatest. _____

Goes through (1, 2) and (6, 4)

$$m = \frac{4 - 2}{6 - 1} = \frac{2}{5}$$



| X | Y |
|----|----|
| 2 | 6 |
| 5 | 11 |
| 8 | 16 |
| 11 | 21 |

$$m = \frac{5}{3}$$

Ordering the slopes from least to greatest: $\frac{1}{6}, \frac{2}{5}, \frac{5}{3}$

I can find rate of change from a word problem. _____

Mrs. Burke talked to Pizza Hut about pizza for her class reward party. They said that delivery was \$10 and that each pizza would cost \$4. Find the rate of change.

Rate: cost per pizza \$4

Donald wanted to learn Spanish. He only knew 10 words. He ordered Rosetta Stone and after using the program for 2 weeks he now knows 470 words. Find the rate of change.

Rate: words per week $\frac{470 - 10}{2} = \frac{460}{2}$

230 words every week

George's parents are trying to decide how many phone lines to put on their family plan. If they put only two lines, it will cost \$90 a month. If they decide to get one for everyone in the family, 5 lines would cost \$210 a month. Find the rate of change.

Cost per line $\frac{210 - 90}{5 - 2} = \frac{120}{3}$

\$40 every line

I can compare rate of change from different representations.

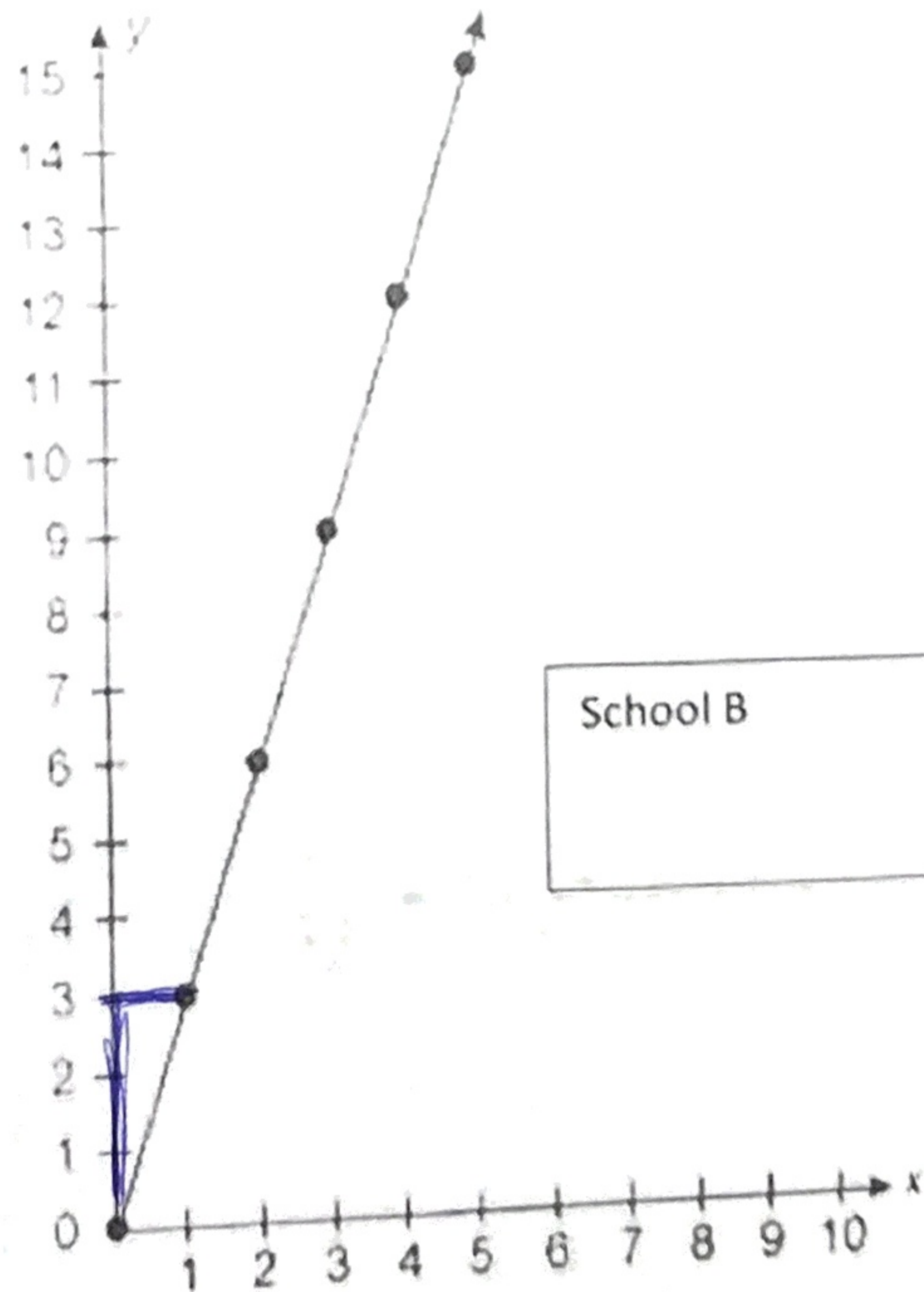
Two schools are selling giant Hershey's bars to raise money for their band trip. Which school is charging more?

| School A | |
|-------------------|--------|
| Candy Bars Bought | Charge |
| 1 | 3.50 |
| 2 | 7 |
| 3 | 10.50 |
| 4 | 14 |
| 5 | 17.50 |

$$\frac{\Delta y}{\Delta x} = \frac{3.5}{1}$$

\$3.5 for every ch. bar.

School A
b/c 3.5 > 3



$\frac{3}{1}$ \$3 for every ch. bar