Created by Sujoy Guha-Perry

Warmup 9/$\left(\left(\frac{3!}{1}\right)^2 - \sqrt{100} - (-1)^2\right)$

1) This is Billy's height, recorded on his various birthdays. Find the rate of change of Billy's growth.

Years	Billy's height (inches)
4	32
7	41
9	47

2) One common mistake might be to divide 32 by 4 to get the rate at which Billy is growing. Explain what is wrong with this strategy.

HONORABLE MENTIONS: Sept. 25

- **Jacob C:** $\left(\sqrt{25}\right)^2$
- **Sam U:** $\sqrt{625}$
- **Rachel S:** $\left(5^2 \cdot 4\right) - [5 \cdot (3 \cdot 5)]$
- **Cayden L:** $\left(\frac{3!}{2} + \frac{4}{2}\right) 5$

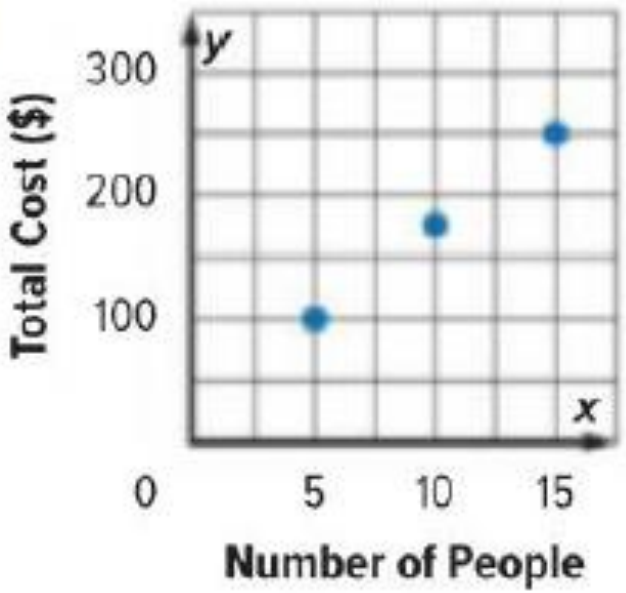
Review Homework

p.175 (1 – 6, 10, 11)

1) Yes; the rate of change = 3 cents per hour.
2) No; the rate of change from 1 to 2 seconds is 14.7 m/s, but the rate of change from 2 to 3 seconds is 24.5 m/s
3) Yes; ¾ cup of vinegar for every 2 cups of oil (Or 3/8 cup of vinegar for each cup of oil).
4) Yes; $2\frac{in}{min}$.
5) Yes; $7.5\frac{mi}{in}$.

Italian Dressing Recipe				
Oil (c)	2	4	6	8
Vinegar (c)	$\frac{3}{4}$	$1\frac{1}{2}$	$2\frac{1}{4}$	3

6) Yes; $15 per person. **NOT $20 per person! It's not proportional!**



People	Cost
5	100
10	175
15	250

BACK TO Rate of Change Guided Notes

- **Please complete the "Bikes" problem at the bottom on the back. Work with your elbow partner.**

As a group…

- **Complete the "Fire Department" task on the front of the guided notes. Work with your entire group. Get your answers checked by me!!!**

Table of Contents

Slope

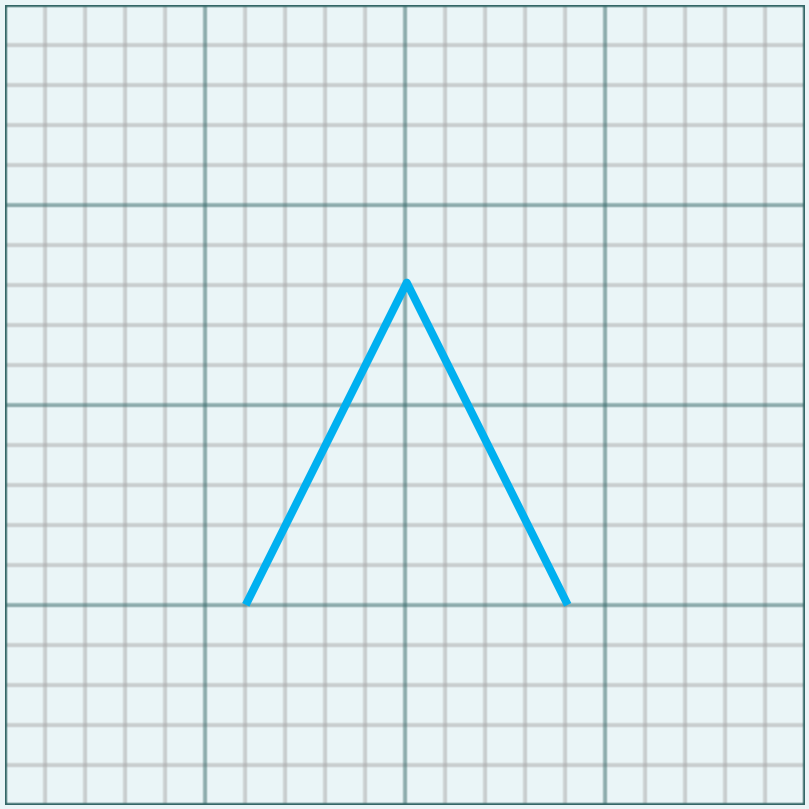
Objectives:

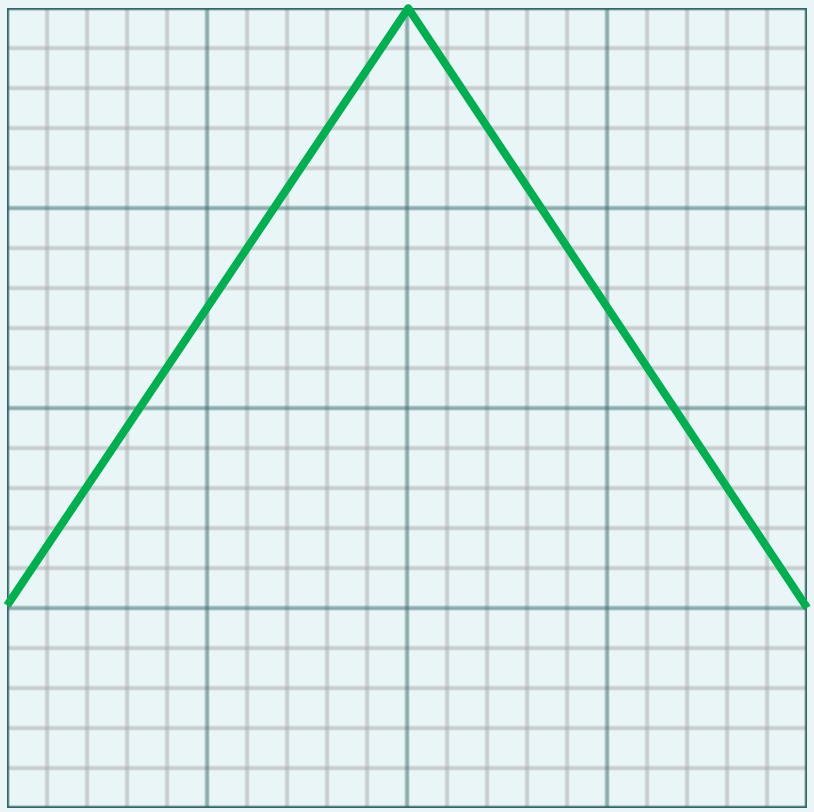
-Be able to find the slope of a line on a graph! (Today)

-Be able to find the slope between two points without using a graph (Next Week)

Which roof is steeper???

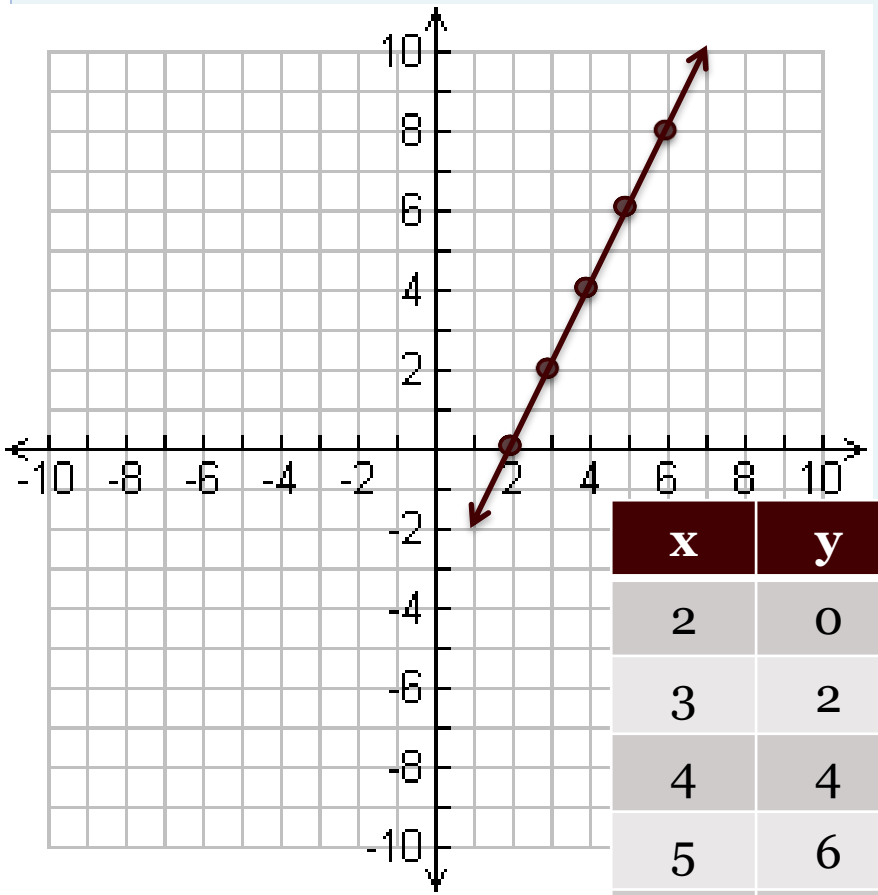
Which roof is steeper?





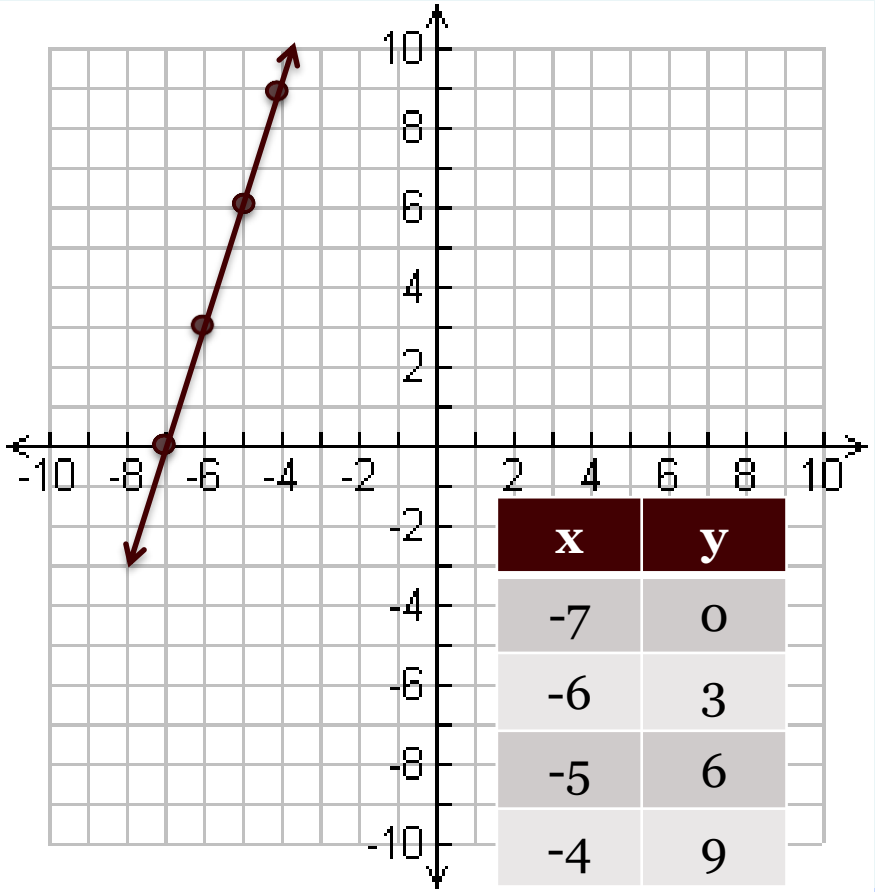
Which line is steeper?

Increases 2 numbers for every 1 "x"



x	y
2	0
3	2
4	4
5	6
6	8

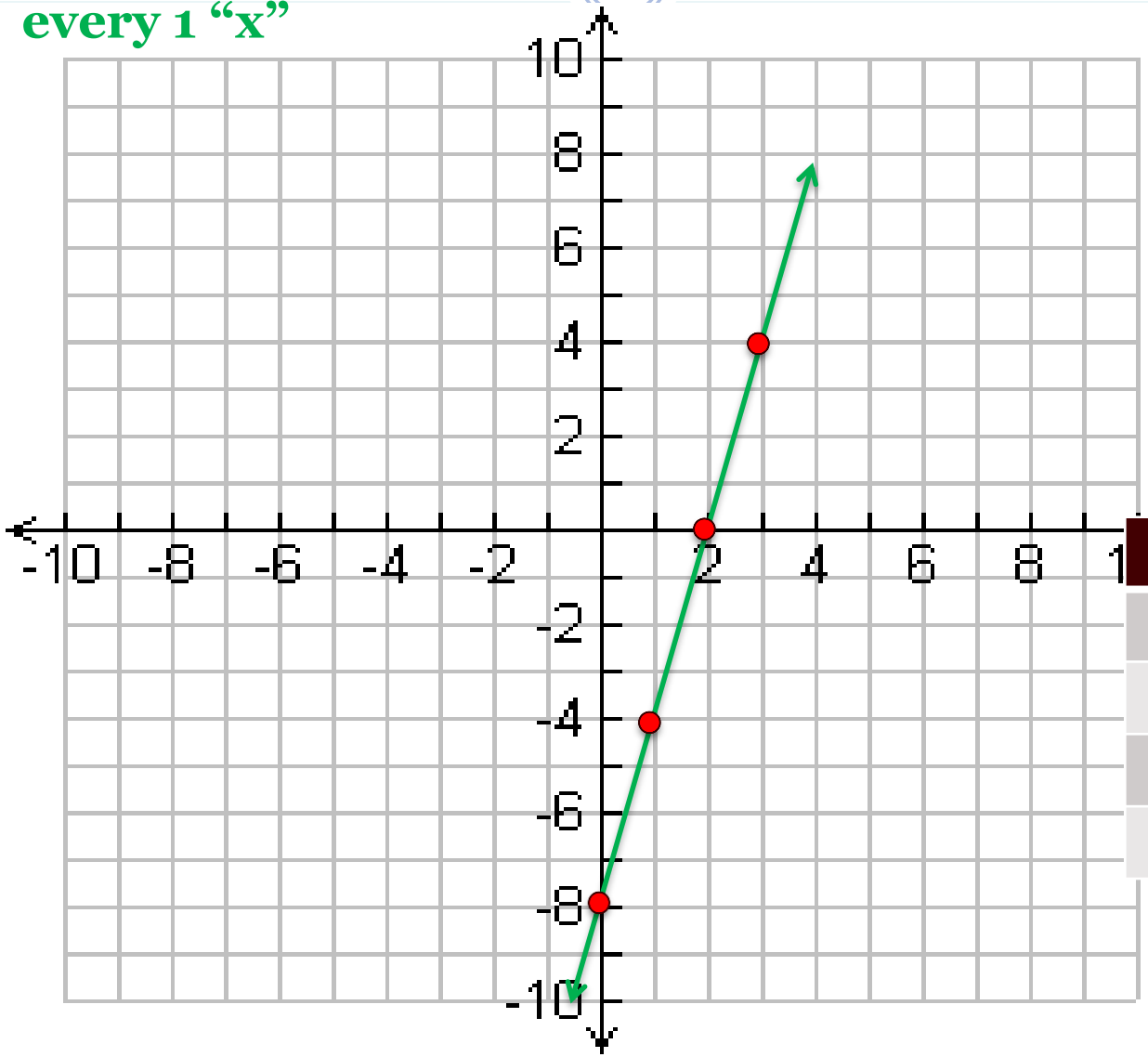
Increases 3 numbers for every 1 "x"



x	y
-7	0
-6	3
-5	6
-4	9

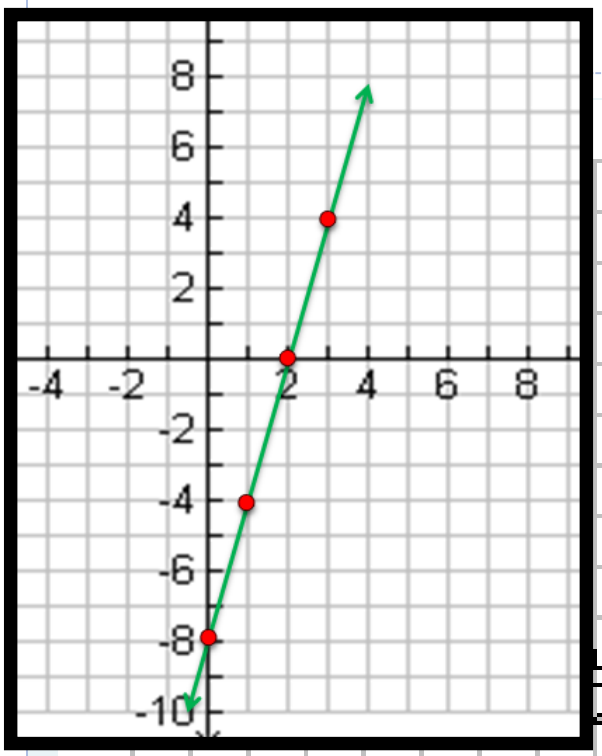
How steep is this line?

Increases 4 numbers for every 1 "x"



x	y
0	-8
1	-4
2	0
3	4

How steep is this line?



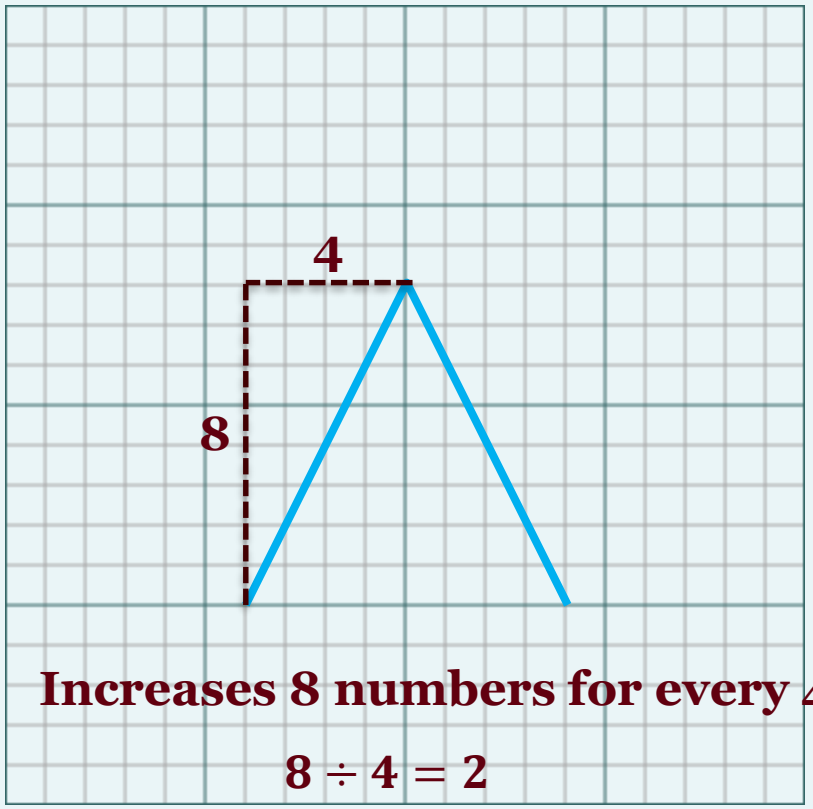
Increases 5 numbers for every 2

$5 \div 2 = 2.5$

Increases 2.5 numbers for every 1

x	y
-2	-10
0	-5
2	0
4	5

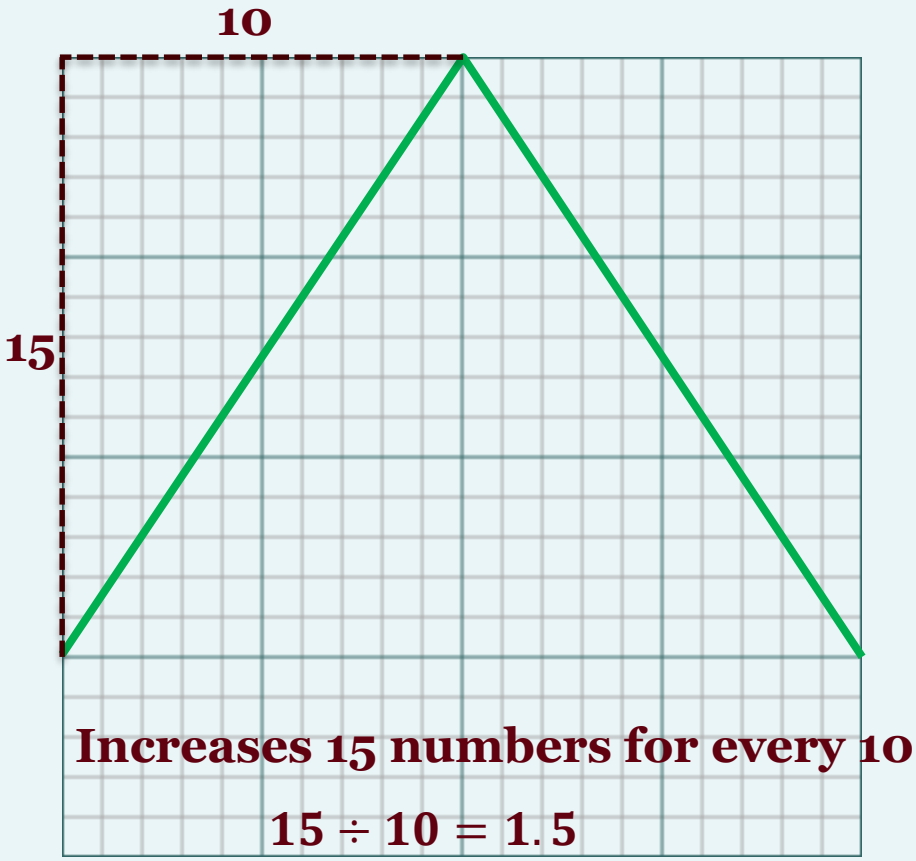
Which roof is steeper?



Increases 8 numbers for every 4

$8 \div 4 = 2$

Increases 2 numbers for every 1



Increases 15 numbers for every 10

$15 \div 10 = 1.5$

Increases 1.5 numbers for every 1