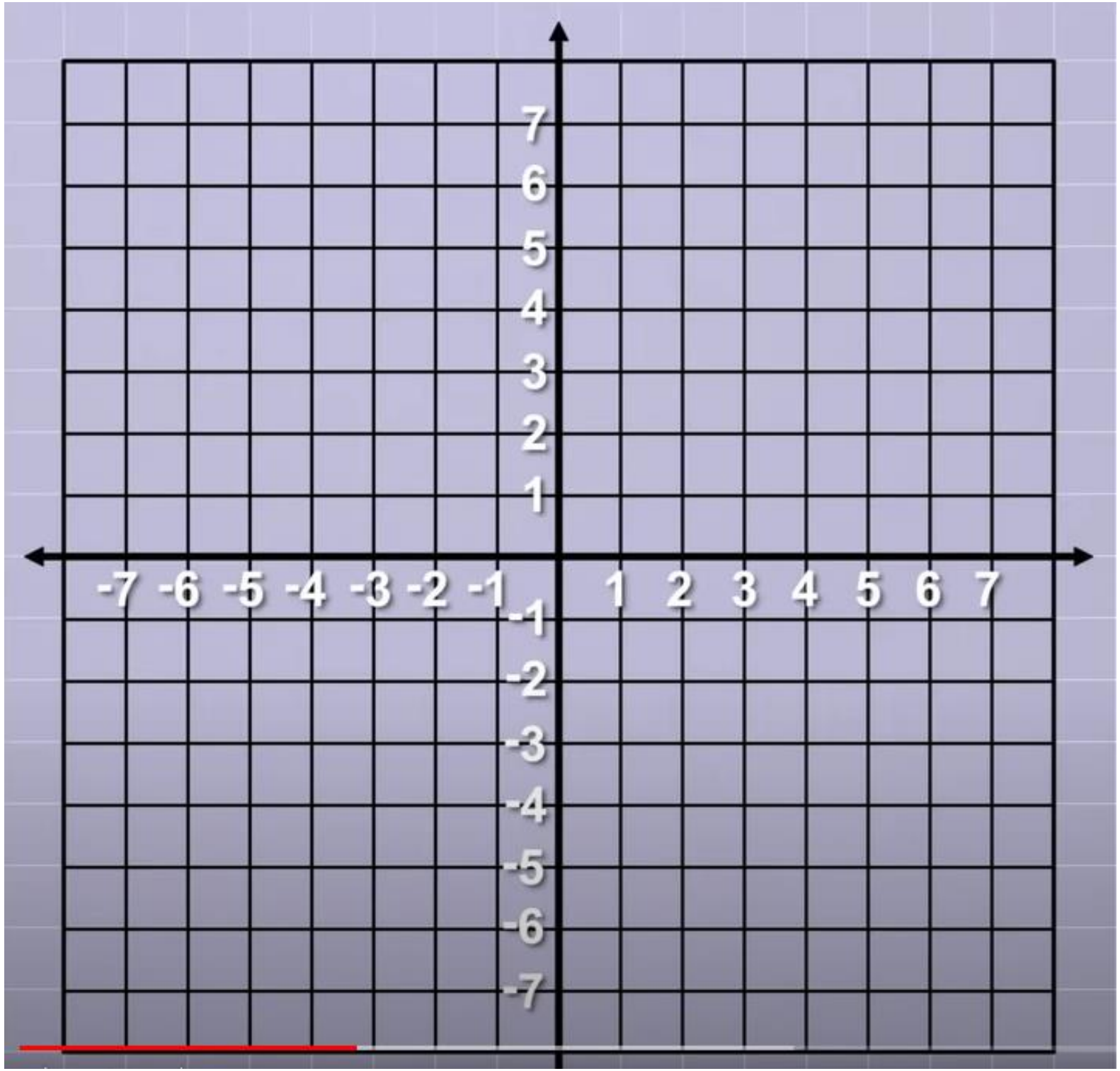
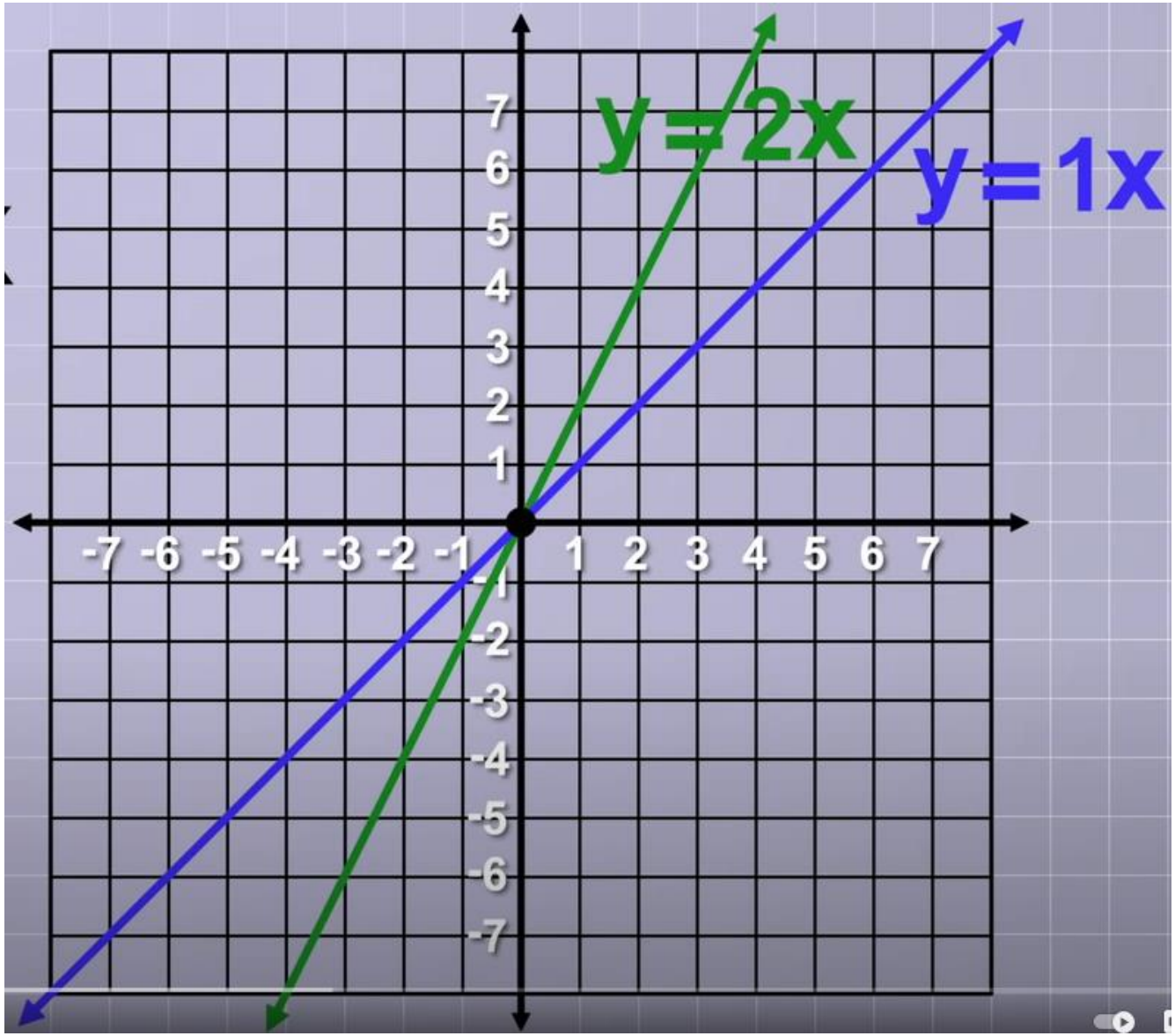
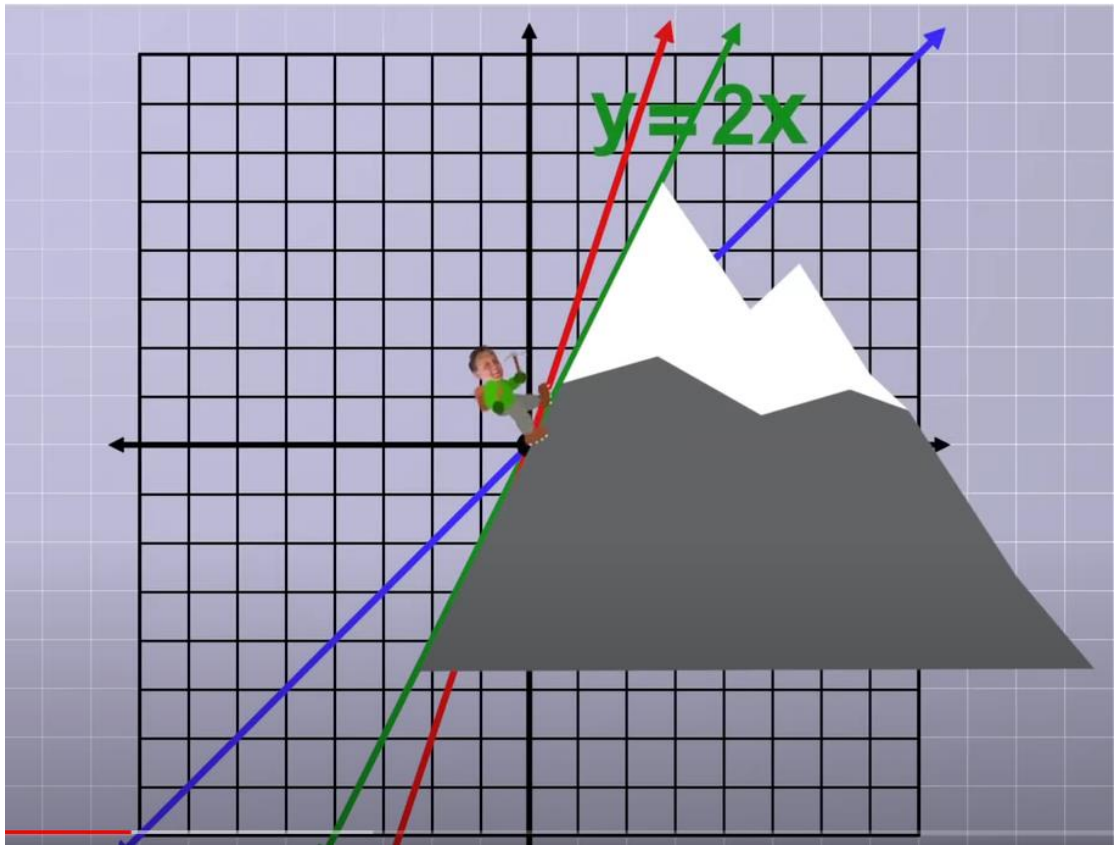
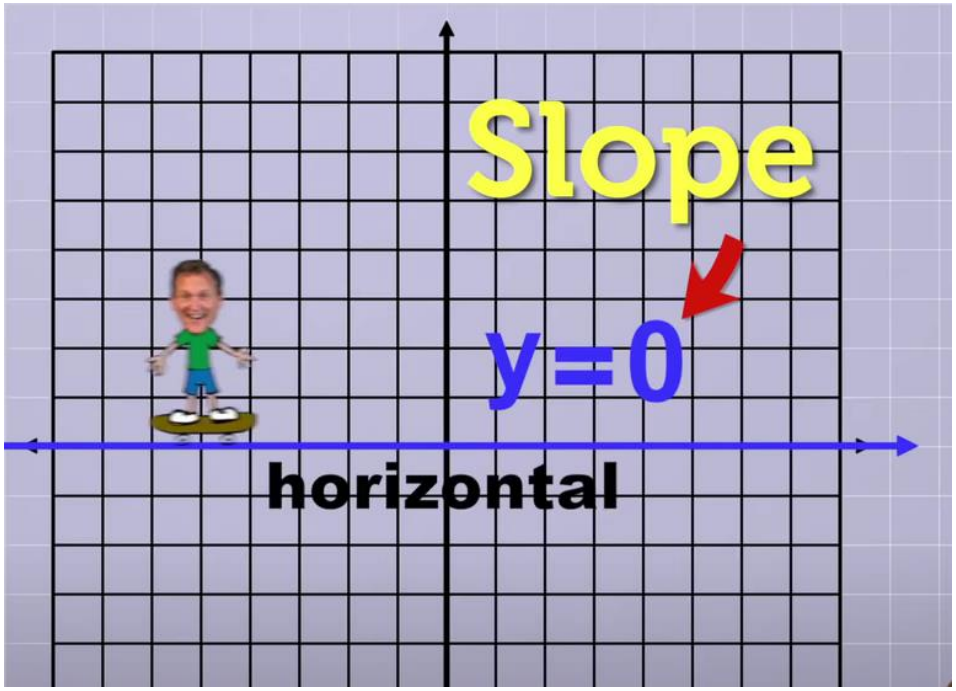
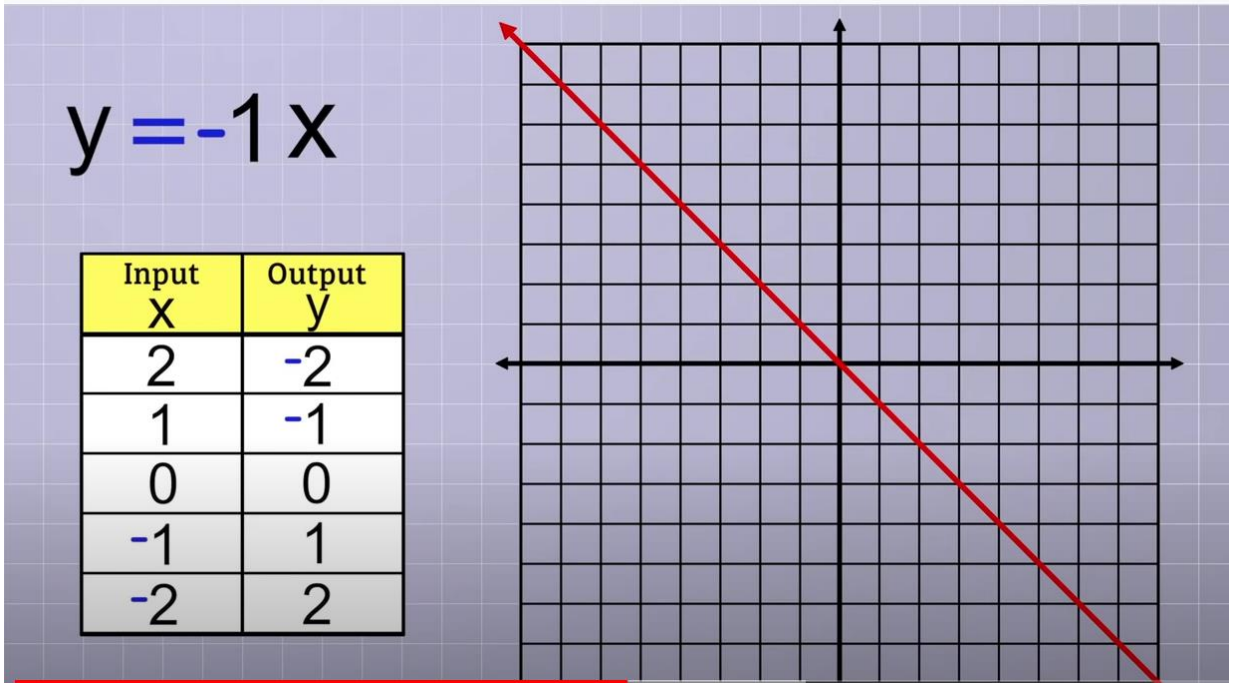
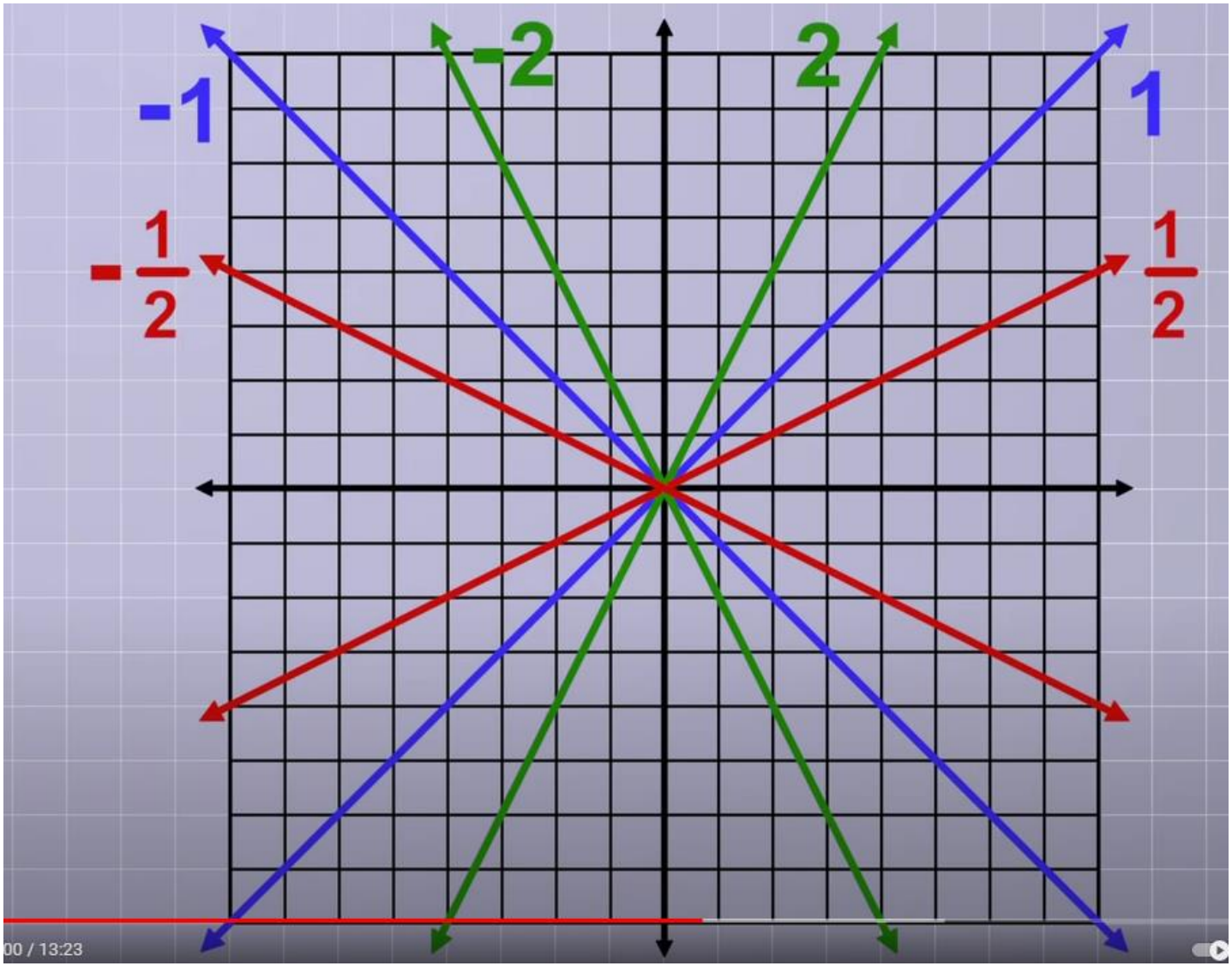

7
6
5
4
3
2
1
-7 -6 -5 -4 -3 -2 -1
1 2 3 4 5 6 7
-1
-2
-3
-4
-5
-6
-7

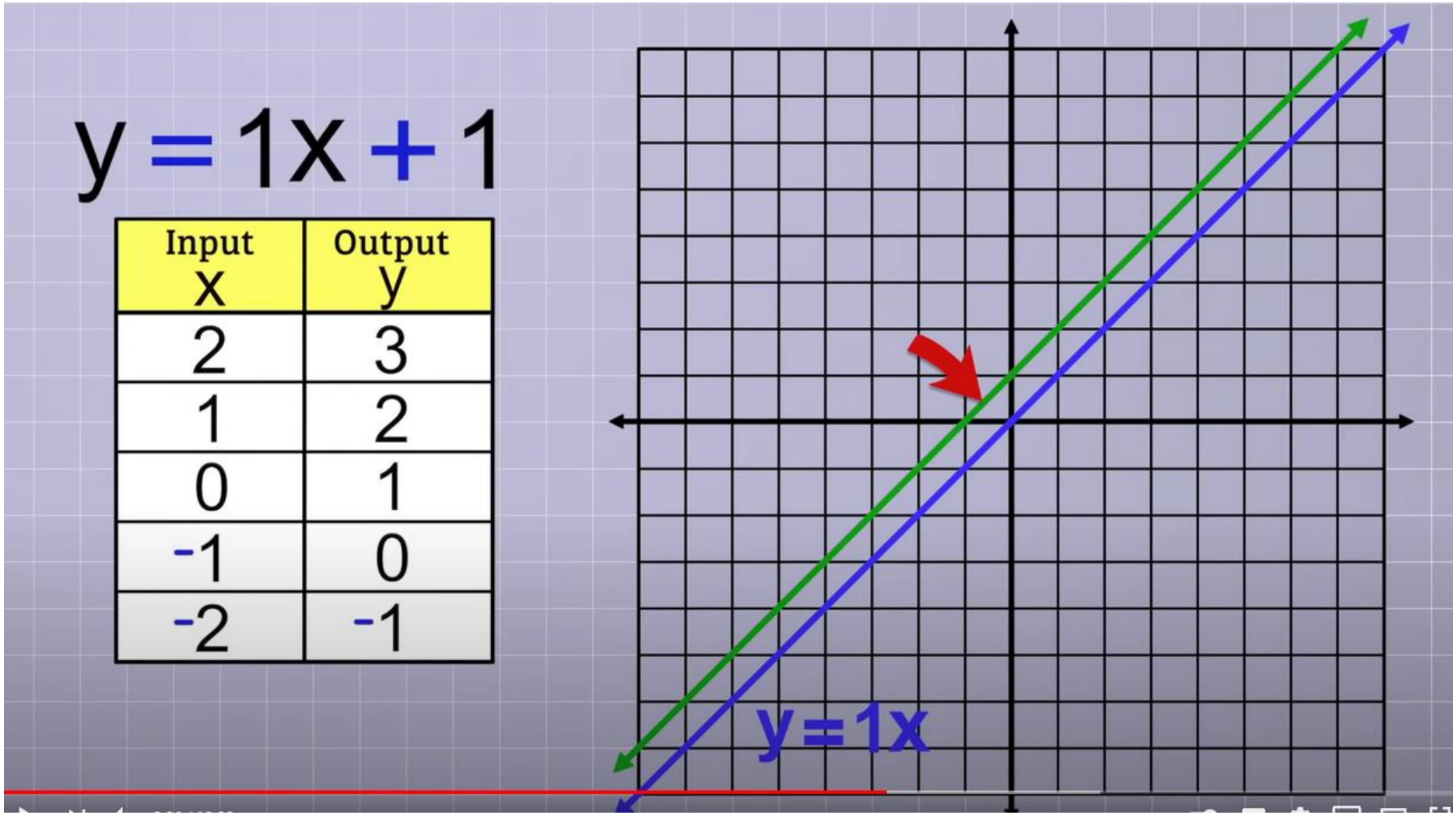

y = 2x
y = 1x
7
6
5
4
3
2
1
-7 -6 -5 -4 -3 -2 -1
1 2 3 4 5 6 7
-1
-2
-3
-4
-5
-6
-7

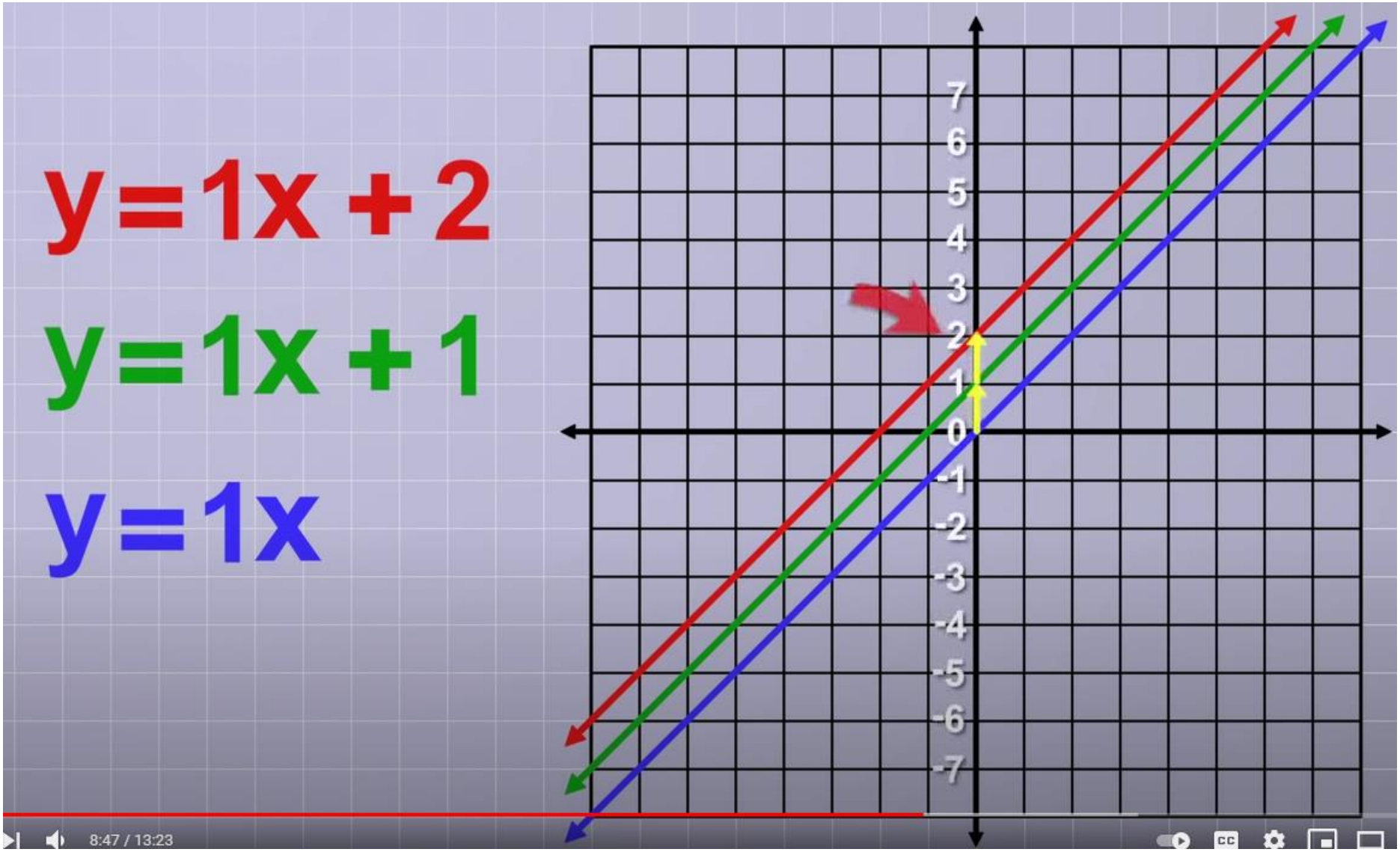

y=2x


Slope
y=0
horizontal

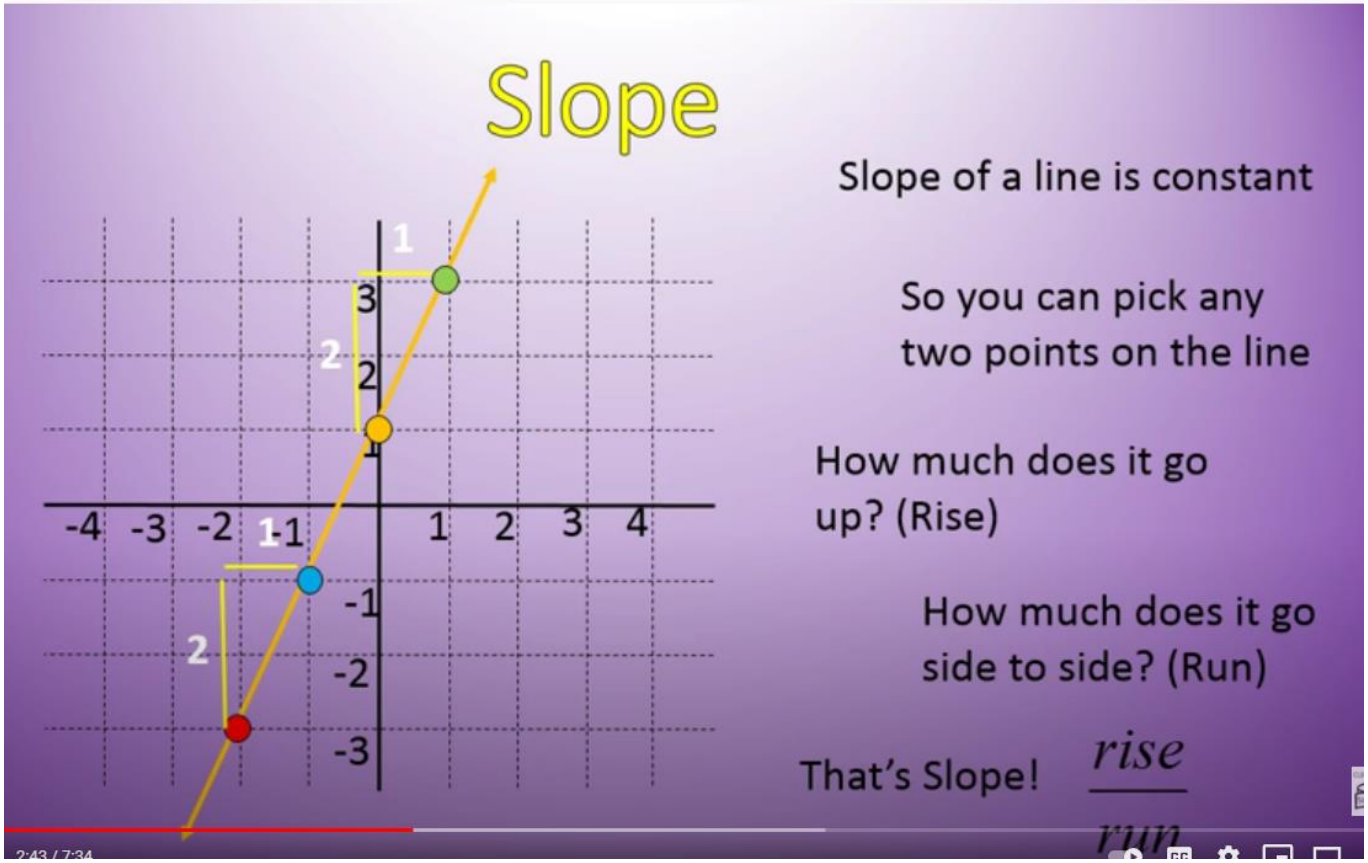

y = -1 x
Input x
Output y
2
-2
1
-1
0
0
-1
1
-2
2


-2
2
-1
1
$-\frac{1}{2}$
$\frac{1}{2}$
00 / 13:23

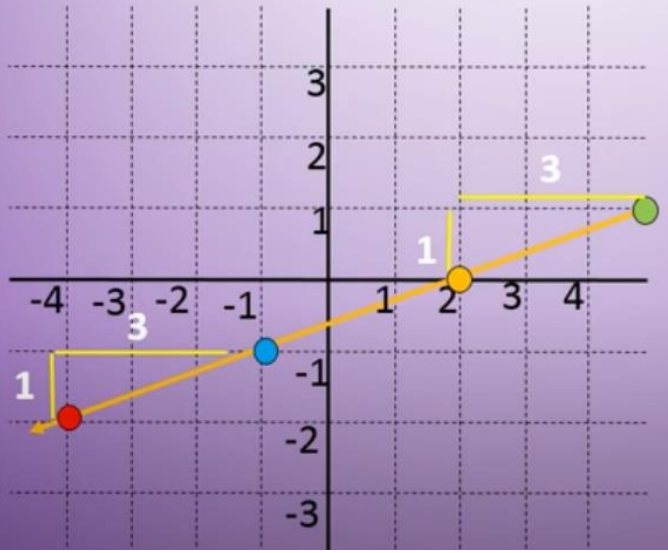

y = 1x + 1
Input x
Output y
2
3
1
2
0
1
-1
0
-2
-1
y=1x


y=1x+2
y=1x+1
y=1x
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
8:47 / 13:23

Linear	NOT Linear
$x-4=2(y-3)$	$y=x^2-4$
$2x+1=x-6y$	$y=x^2-8x+3$
$y=x+2-4x+1$	$x^3+4=y^3+9$


Slope
Slope of a line is constant
So you can pick any two points on the line
How much does it go up? (Rise)
How much does it go side to side? (Run)
That's Slope!
rise
run
1
2
2
1
-4 -3 -2 -1 1 2 3 4
3
2
-1
-2
-3
2:43 / 7:34

Your Turn!



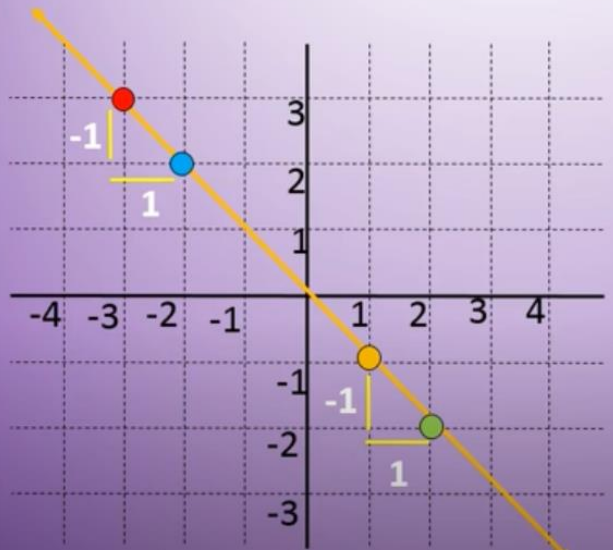
Pick any two points on the line

How much does it go up? (Rise)

How much does it go side to side? (Run)

That's Slope! $\frac{rise}{run}$

Teaching Time



If the Line goes down (from left to right) it has a negative Slope

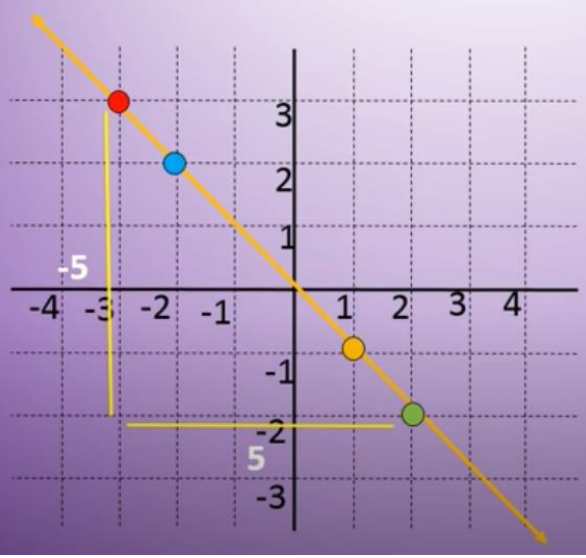
How much does it go down? (Rise)

How much does it go side to side? (Run)

That's Slope! $\frac{rise}{run}$ $-\frac{1}{1}$

Extension

What if I pick the Red and Green Points?

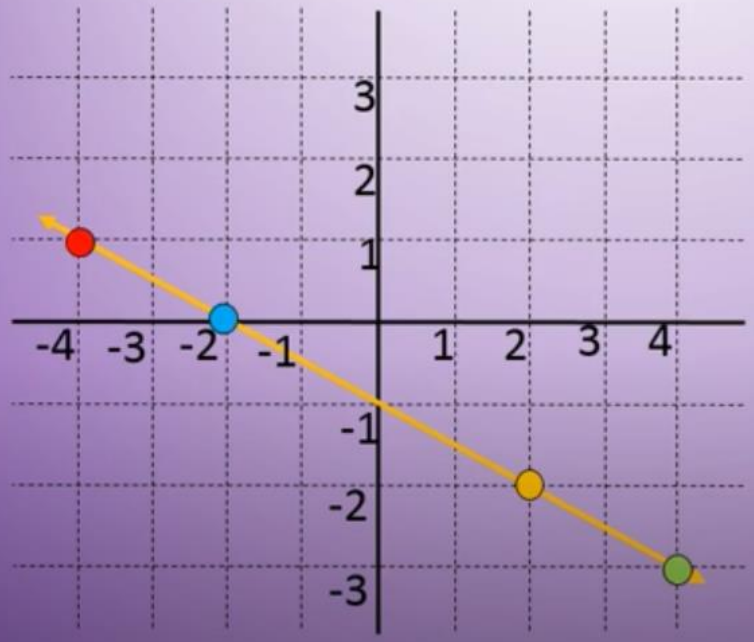


How much does it go down? (Rise)

How much does it go side to side? (Run)

$$\frac{rise}{run} \quad -\frac{5}{5} = -\frac{1}{1}$$

Find The Slope



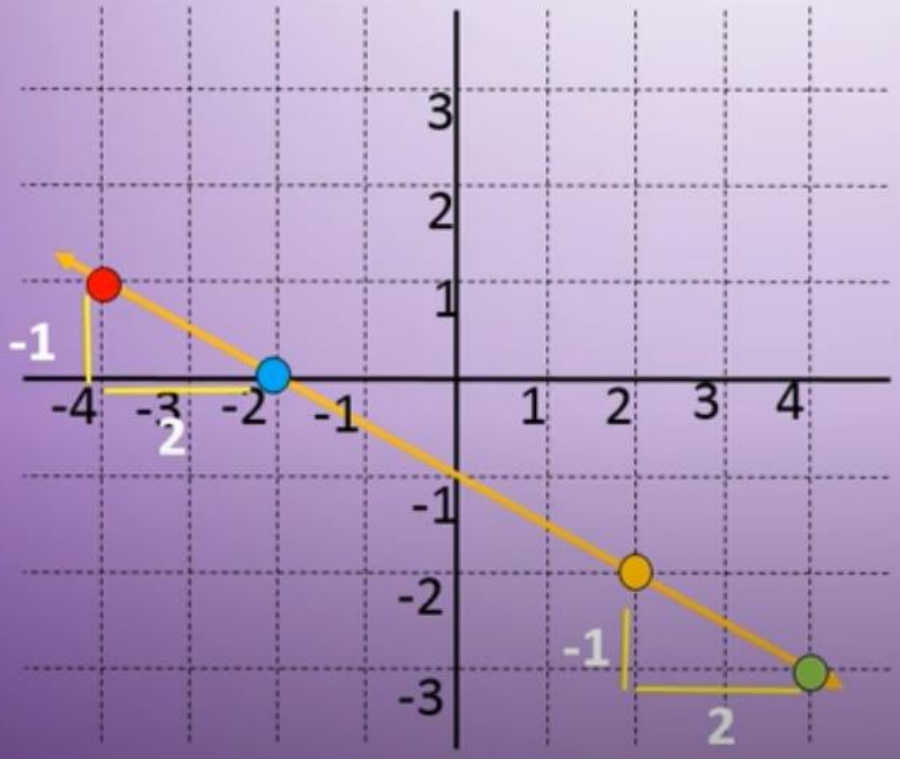
Pick any two points on the line

How much does it go up? (Rise)

How much does it go side to side? (Run)

That's Slope! $\frac{rise}{run}$

Find The Slope



Pick any two points on the line

How much does it go up? (Rise)

How much does it go side to side? (Run)

That's Slope! $\frac{rise}{run}$ $-\frac{1}{2}$