

RATE OF CHANGE: TABLES

If you have a table showing a linear function, the rate of change will always be constant. Remember, you can find the rate of change of a linear function, or the slope, using this formula:

$$\text{Rate of change} = \frac{\text{change in } y}{\text{change in } x}$$

Let's try it! Find the rate of change of the linear function in the table below.

	x		y	
	1		2	
+1	2		5	+3
+2	4		11	+6
+8	8		23	+24
	12		35	

$$\frac{3}{1} = 3$$

You can calculate the rate of change by finding the change in y and change in x between two rows and dividing them.

$$\frac{6}{2} = 3$$

Since this is a linear function, the rate of change will always be the same, no matter which rows you choose. For this example, the rate of change is always 3.

$$\frac{24}{8} = 3$$

Practice it! Find the rate of change for the linear function in each table. Then circle the greatest rate of change in each row. **All fractions and mixed numbers are written in simplest form.**

	x		y	
	1		25	
	2		50	
	3		75	
	4		100	

Rate of change = 25

	x		y	
	10		25	
	11		35	
	12		45	
	13		55	

Rate of change = 10

	x		y	
	5		25	
	10		30	
	15		35	
	20		40	

Rate of change = 1

	x		y	
	2		8	
	4		16	
	6		24	
	8		32	

Rate of change = 4

	x		y	
	8		10	
	12		20	
	16		30	
	20		40	

Rate of change = $2\frac{1}{2}$

	x		y	
	-2		6	
	-1		12	
	0		18	
	1		24	

Rate of change = 6

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Keep going! Find the rate of change for the linear function in each table. Then circle the greatest rate of change in each row. **All fractions and mixed numbers are written in simplest form.**

x	y
0	15
3	17
6	19
9	21

Rate of change = $\frac{2}{3}$

x	y
0	22
5	25
10	28
15	31

Rate of change = $\frac{3}{5}$

x	y
0	18
8	23
16	28
24	33

Rate of change = $\frac{5}{8}$

x	y
-2	70
2	82
6	94
8	100

Rate of change = 3

x	y
-5	-21
-4	-10
-3	1
-2	12

Rate of change = 11

x	y
3	95
7	115
9	125
10	130

Rate of change = 5

x	y
10	15
30	45
60	90
100	150

Rate of change = $1\frac{1}{2}$

x	y
-6	-31
-1	-21
1	-17
4	-11

Rate of change = 2

x	y
-1	-4
5	20
9	36
11	44

Rate of change = 4