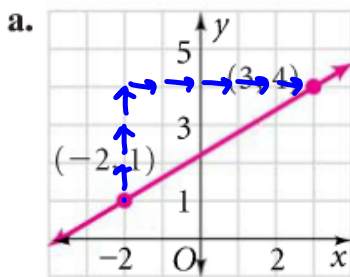


Warm-up

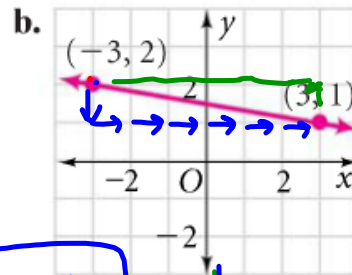
Find the slope of each line.



$$\frac{\text{RISE}}{\text{RUN}} = \frac{+3}{+5} = \frac{3}{5}$$

$$\begin{matrix} (-2, 1) & (3, 4) \\ x_1 & y_1 & x_2 & y_2 \end{matrix}$$

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{4 - 1}{3 - (-2)} = \frac{3}{5}$$



$$\frac{-1}{6} = -\frac{1}{6}$$

$$\begin{matrix} (-3, 2) & (3, 1) \\ x_1 & y_1 & x_2 & y_2 \end{matrix}$$

$$\frac{1 - 2}{3 - (-3)} = -\frac{1}{6}$$

Table work:

	x	y	
	3	-11	-10 -8 -2
+5	8	-21	
+4	12	-29	
+1	13	-31	

Mark-up your table

$\Delta =$
change

Compare

$$\frac{\Delta y}{\Delta x}$$

$$\frac{-10}{5} \quad \frac{-8}{4} \quad \frac{-2}{1}$$

\downarrow
-2
 \downarrow
-2
 \downarrow
-2

If all slopes are the same, its linear

	x	y	
	-2	-2	-4 +16 +33
+2	0	-6	
+4	4	10	
+3	7	43	

$$\frac{\Delta y}{\Delta x}$$

$$\frac{-4}{2} \quad \frac{16}{4} \quad \frac{33}{3}$$

\downarrow
-2
 \downarrow
4
 \downarrow
11

If the slopes are different, its nonlinear