Chic-fil-a offers family night on Tuesdays where each **order** earns **$1.00** for Mabry.

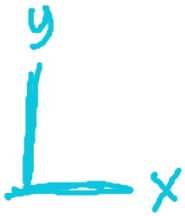
(table) (cause and effect)

order x	$ y	
0	0	← graphing always goes through origin (0,0)
1	1	$\frac{1}{1}=1$
2	2	$\frac{2}{2}=1$
3	3	$\frac{3}{3}=1$
4	4	$\frac{4}{4}=1$

$2\overline{)2}^{\,1}$

- Make a table
- Constant $\left(\frac{y}{x}\right)$
- Write equation $y=1x$
- Graph
- Proportion

$y = kx$



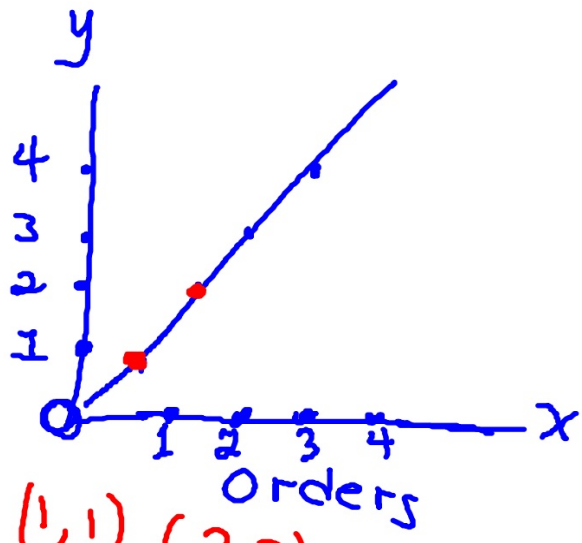
(x, y)

Constant is 1

$\therefore$

$\boxed{y = 1x}$

orders (x)	$ (y)	
0	0	
1	1	$\frac{1}{1}=1$
2	2	$\frac{2}{2}=1$
3	3	$\frac{3}{3}=1$
4	4	$\frac{4}{4}=1$



(1, 1) (2, 2)

Proportion - Use two ordered pairs from graph.

$$\frac{1}{1}=\frac{2}{2}$$

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

Caroline can swim 1 lap in 15 seconds.

cause | effect

x	y	
0	0	
1	15	$\frac{15}{1} = 15$
2	30	$\frac{30}{2} = 15$
3	45	$\frac{45}{3} = 15$
4	60	$\frac{60}{4} = 15$

- Table
- Direct Variation equation
- Make graph
- proportion

(1,15) (2,30) (3,45) (4,60)

$\frac{x}{y}$ $\frac{1}{15} = \frac{2}{30}$ ✓ Simplified

$\frac{1}{15} = \frac{1}{15}$ ✓

→ proportion

Direct V. equation

$y = 15x$

↑ constant

Constant $\frac{y}{x}$

Direct V $y = kx$

$y = kx$ direct variation eq.

$\frac{y}{x}$ = constant $y = 3x$ 3 is the constant

Direct Variation has a constant.

$y = 3x$, **Find x** when $y = 24$

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

$x = 8$