

Warm up:

Determine if the function represents a proportional relationship. If so, find the constant of proportionality.

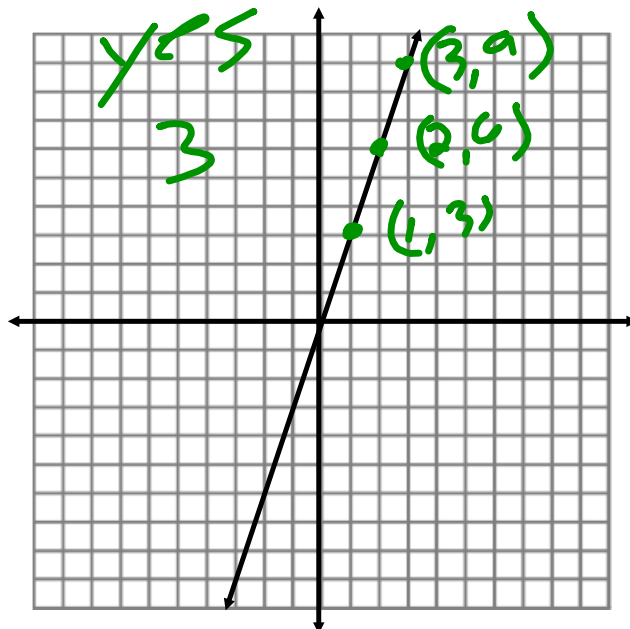
1) $y = 3x + 8$ *no* 5)

2) $y = 6x$ *yes, 6*

3) *yes, 5* 4) *no*

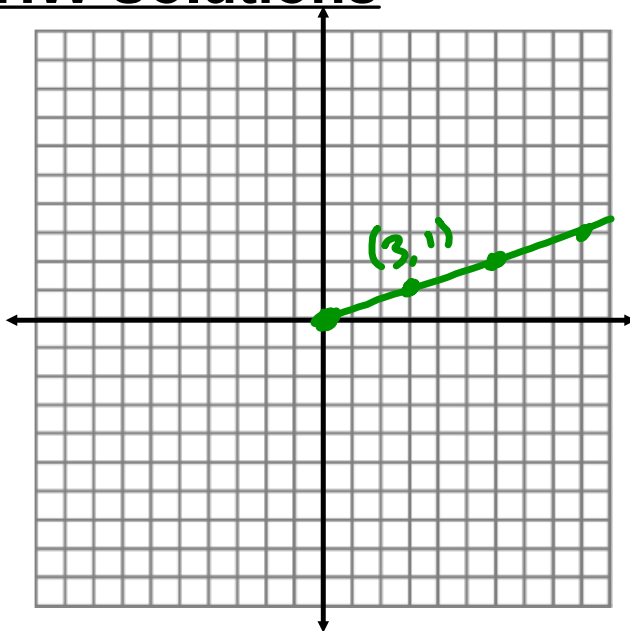
x	y
4	20
5	25
6	30

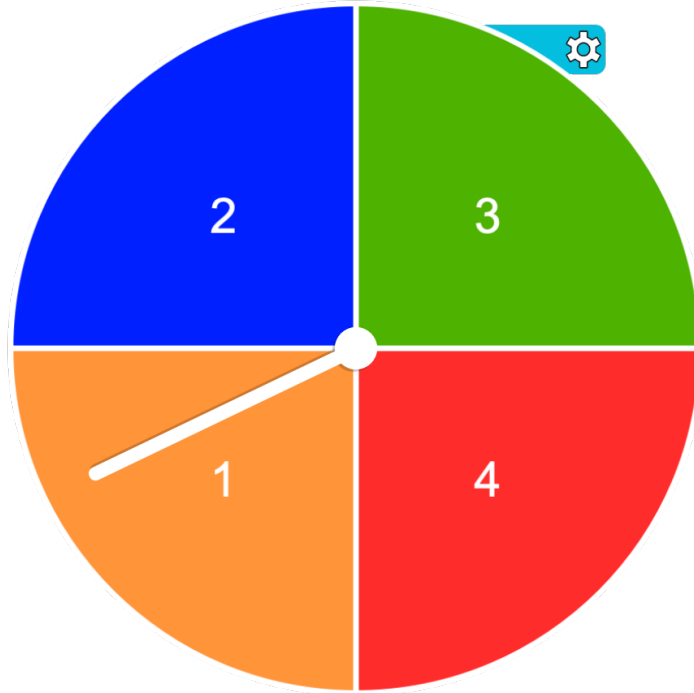
x	y
2	<i>x2</i> 4
3	<i>x4</i> 12
4	<i>x8</i> 32



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

HW Solutions





Vince built 12 end tables in 5 days. What was his unit rate in tables per day?

$$\frac{12}{5} = 2.4 \text{ tables/day}$$

Are the following ratios proportional?

$$\frac{8}{26} \text{ , } \frac{36}{117}$$

$$8 \cdot 117 \stackrel{?}{=} 26 \cdot 36$$

$$936 = 936$$

yes

Solve.

$$\frac{12}{8} = \frac{w}{14}$$

$$12 \cdot 14 = 168$$
$$\frac{168}{8} = 21$$

$$8w = 12 \cdot 14$$

$$\frac{8w}{8} = \frac{168}{8}$$

$$w = 21$$

Ian is riding his scooter at a speed of 6 mi/h.
Write and graph a function to model this situation.

$$y = 6x$$

x	6x	y
0	6(0)	0
1	6(1)	6
-1	6(-1)	-6

What does x represent?

of hours

What does y represent?

total distance

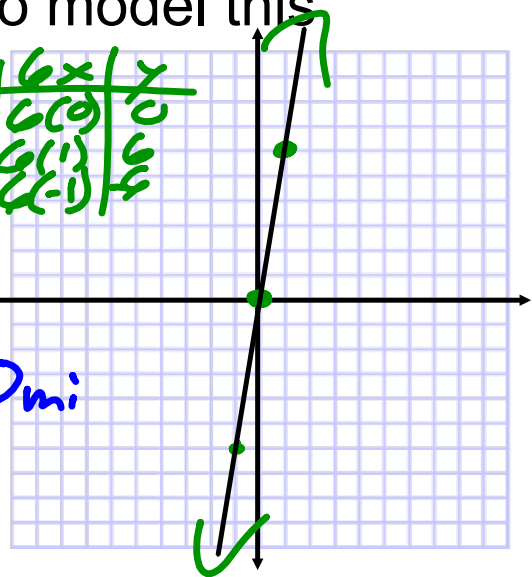
What does the points

(0,0) mean?

In 0h, you go 0mi

What does the point (1, 6)

mean? *In 1h you go 6mi*



Craig can sharpen 4 knives in 14 minutes. If the number of knives is proportional to the time it takes to sharpen them, how long would it take him to sharpen 10 knives?

$$\frac{4}{14} = \frac{10}{x}$$

$$\frac{4x}{4} = \frac{140}{4}$$
$$x = 35$$

35min

Allison ate $14\frac{1}{2}$ lobster tails in $5\frac{2}{3}$ minutes.
What was her unit rate in lobster tails per
minute? Express your answer as a mixed
number.

$$\begin{aligned} 14\frac{1}{2} & \div 5\frac{2}{3} \\ \frac{29}{2} & \div \frac{17}{3} \\ \frac{29}{2} \cdot \frac{3}{17} & = \frac{87}{34} = 2\frac{19}{34} \text{ lobster tails} \\ & \text{min} \end{aligned}$$

Shop Rite is selling 3 lb of peanuts for \$17.
Wegmans is selling an 8 lb bag of peanuts for \$45. Which store has the better deal?

$$\frac{SR}{\frac{17}{3} = \$5.67/lb}$$

$$\frac{W}{\frac{45}{8} = \$5.63/lb}$$

Wegmans

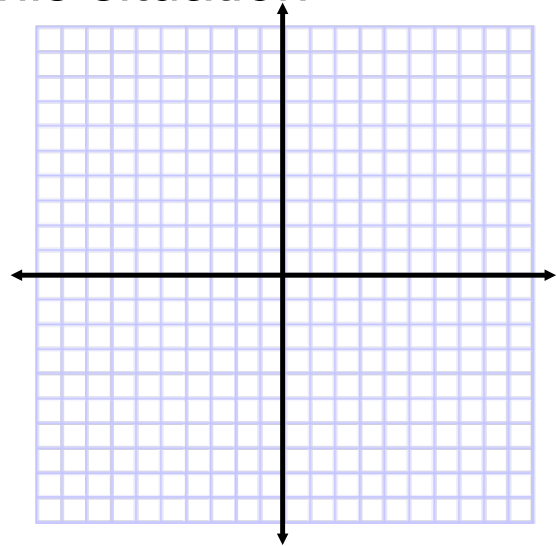
Jack can eat 3 hot dogs per minute. Write and graph a function to model this situation.

What does x represent?

What does y represent?

What does the points
 $(0,0)$ mean?

What does the point $(1, 3)$
mean?



You ran $3\frac{1}{3}$ mi in $\frac{6}{7}$ h. What was your average speed?

Whole Foods is selling 16 oz pieces of cheese for \$24. What is the unit price?

A 6 lb bag of pistachios costs \$44. If the price is proportional to the number of the pounds, what is the cost of a 15 lb bag?

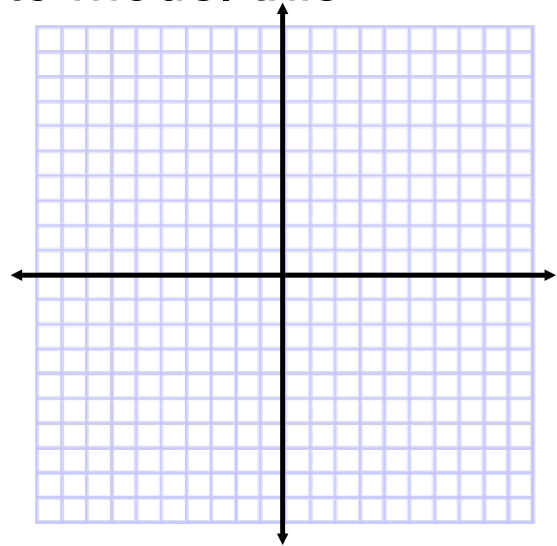
Meredith makes \$2.50/h working as a waitress.
Write and graph a function to model this situation.

What does x represent?

What does y represent?

What does the points
 $(0,0)$ mean?

What does the point
 $(1, 2.5)$ mean?



Are the following ratios proportional?

$$\frac{3}{14}, \frac{5}{26}$$

