

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)

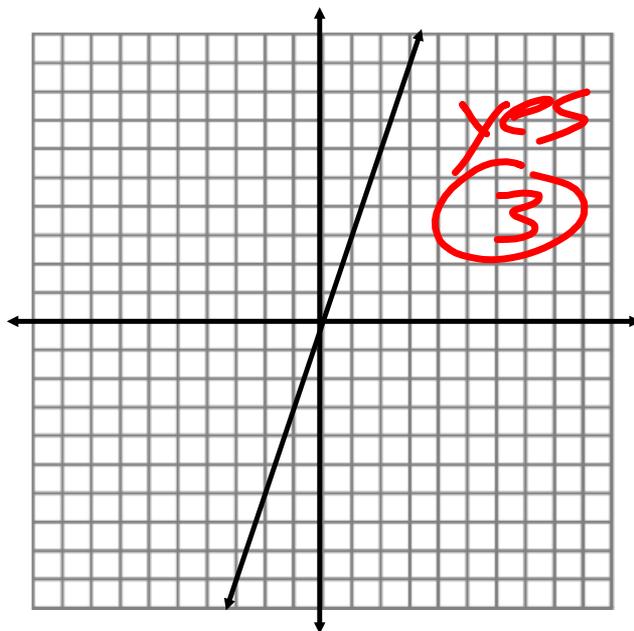
4)

x	y
4	20
5	25
6	30

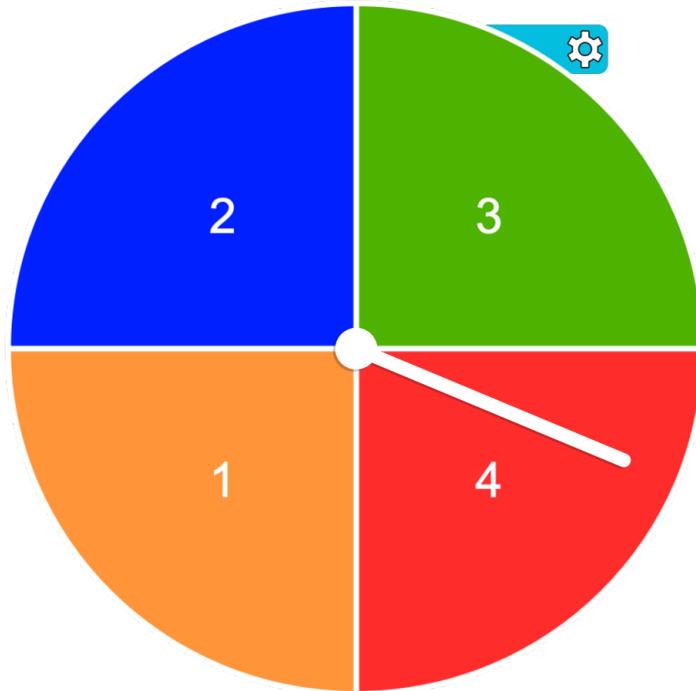
*yes
5*

x	y
2	x2 4
3	x4 12
4	x8 32

no



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?

$$\frac{8}{26}, \frac{36}{117}$$
$$26 \cdot 36 \stackrel{?}{=} 8 \cdot 117$$
$$936 = 936$$

yes

Solve.

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

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

$$w = 21$$

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

$$y = 6x$$

What does x represent? *hours*

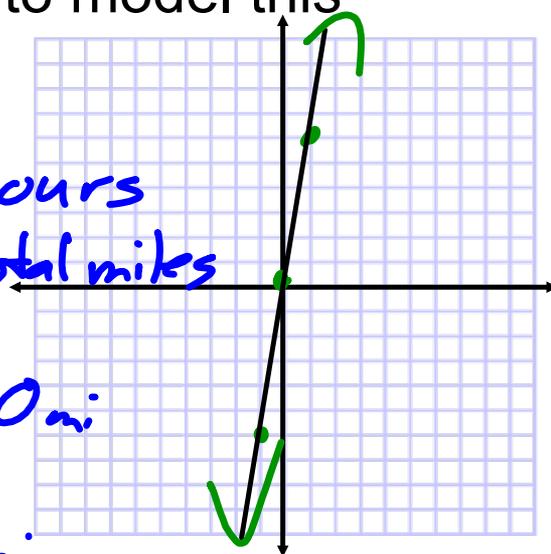
What does y represent? *total miles*

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?

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

$$\begin{array}{r} 4x = 140 \\ \hline 4 \quad 4 \\ \hline x = 35 \end{array}$$

35 min

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.

$$14\frac{1}{2} \div 5\frac{2}{3}$$

$$\frac{29}{2} \div \frac{17}{3}$$

$$\frac{29}{2} \cdot \frac{3}{17} = \frac{87}{34}$$

$$= 2\frac{19}{34} \text{ lobster tails/min}$$

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?

$$\begin{array}{l} \text{SR} \\ \frac{17}{3} = \$5.67/\text{lb} \end{array}$$

$$\begin{array}{l} \text{W} \\ \frac{45}{8} = \$5.63/\text{lb} \end{array}$$

Wegmans

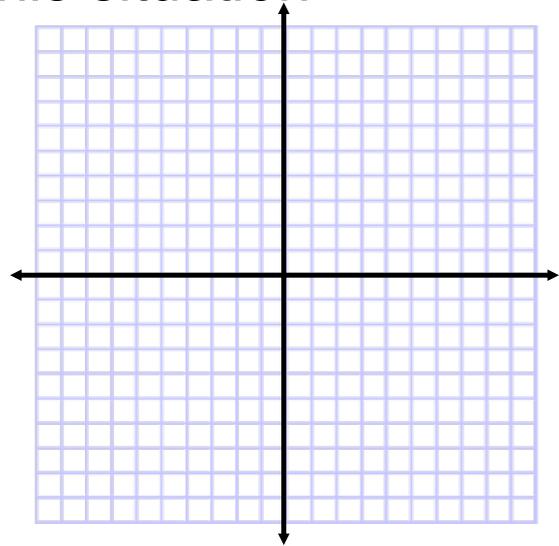
Jack can eat 3 hot dogs per minute. Write and graph a function to model this situation.

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?

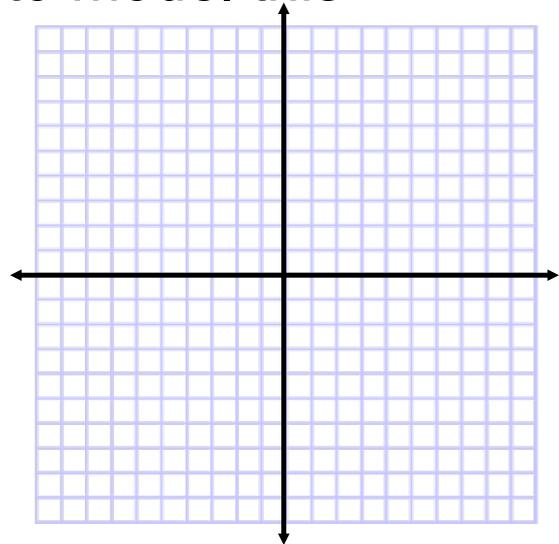
Meredith makes \$2.50/h working as a waitress.
Write and graph a function to model this situation.

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?

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

