

10/24 Unit Rates

- a ratio or rate with a denominator of 1 unit is a unit rate

a rate compares two quantities with different units (ex: miles/hour)

- Find a unit rate by dividing
- *reminder: dividing by a fraction changes to multiplying by the reciprocal

Constant rates of change

- proportion: two equal ratios
- rate of change: describes how one quantity changes in relation to another
- proportional relationship: the rates of change are constant (equal)
equation $\rightarrow y = kx$
- constant of proportionality: k ,
the constant change $k = y/x$

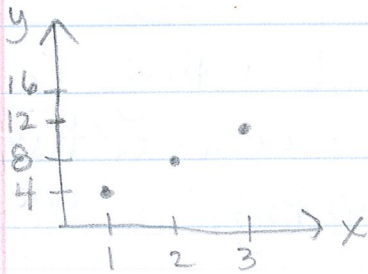
A proportional relationship on a graph is a straight line passing through the origin

Examples: finding k , writing equations,

x	2	4	6
y	10	20	30

$$\frac{y}{x} = \frac{10}{2} = \frac{20}{4} = \frac{30}{6} = \frac{5}{1}$$

equation: $y = 5x$



$(1, 4), (2, 8), (3, 12)$

$$\frac{4}{1} = \frac{8}{2} = \frac{12}{3} = \frac{4}{1}$$

$$y = 4x$$