Homework Questions

Clear Learning Target

You will be able to use proportions to solve real world problems relating to scale and rate.

RATE

Ratio of two measurements with different units

mph $ per oz. $ per lb.

Example #1: *It takes 7 minutes for Melanie to walk around the gym track twice. At this rate, how many times can she walk around the track in a half hour?*

minutes vs. laps

$\frac{\text{min}}{\text{laps}}$ $\frac{7}{2} = \frac{30}{x}$

$60 = 7x$

$x = 8.5$ laps

You Try!

The B-Clean Car Wash washed 128 cars in 3 hours. At that rate, how many cars can they wash in 8 hours?

$\frac{\text{cars}}{\text{hrs}}$ $\frac{128}{3} = \frac{x}{8}$

$\frac{\text{cars}}{\text{hrs}}$ $\frac{128}{x} = \frac{3}{8}$

$3x = 1024$

$x = 341.3333\ldots$

$341.\overline{6}$

SCALE

The relationship between the measurements on a drawing or model and the measurements of the real object

Example #2: *On a model airplane, the scale is 5 centimeters = 2 meters. If the model's wingspan is 28.5 centimeters, what is the actual wingspan of the full size plane?*

scale $\frac{5}{2} = \frac{28.5}{x}$

actual

$57 = 5x$

$\frac{57}{5} = \frac{5x}{5}$

$11.4 \text{ m} = x$

You Try!

On a map of Florida, the distance between Jacksonville and Tallahassee is 2.6 centimeters. If 2 centimeters = 120 miles, what is the distance between the two cities?

scale $\frac{2}{120} = \frac{2.6}{x}$

actual

$312 = 2x$

$156 \text{ mi} = x$

EXIT TICKET!

1. Nathan ran the first 6 miles of a marathon in 58 minutes. If he is able to maintain the same pace, how long will it take him to finish the 26.2 miles?

2. In a road atlas, the scale for the map of Connecticut is 5 inches = 41 miles. What is the distance in miles represented by 2.5 inches on the map?