

Name: _____

Date: _____

Aim: What are ratios and rates?

Do Now

Simplify each fraction to lowest terms.

a) $\frac{12}{36}$

b) $\frac{8}{11}$

c) $\frac{48}{16}$

d) $\frac{9}{9}$

What is a ratio?

Based on the video, express the bad date ratios in 3 different ways

Date 1			
Date 2			
Date 3			

Discussion

- a) Match each description with a verbal rate.
- b) Match each verbal rate with a numerical rate.
- c) Give a reasonable rate for each description.
- d) Give an unreasonable rate for each description.

Description	Verbal Rate	Numerical Rate
Your running rate in a 100-meter dash	Dollars per year	$\frac{m}{sec}$
The fertilization rate for an apple orchard	Inches per year	$\frac{lbs.}{acre}$
The average pay rate for a professional athlete	Meters per second	$\frac{\$}{yr}$
The average rainfall rate in a rain forest	Pounds per acre	$\frac{in}{yr}$

What is a rate?

What is a unit rate?

Express each rate as a unit rate in simplest form.

- a.) 15 miles in 2 hours
- b.) 200 students to 40 teachers
- c.) A person took $2\frac{1}{2}$ days to read 275 pages.
- d.) In the snow, it took $\frac{2}{3}$ of an hour to go 8 miles.

Which is the better buy?

A 3-pound bag of potatoes for \$1.20
or
a 5-pound bag of potatoes for \$1.90

To determine the better buy: _____

Example 1: There are 45 males and 60 females in a subway car.
The subway car travels 2.5 miles in 5 minutes.

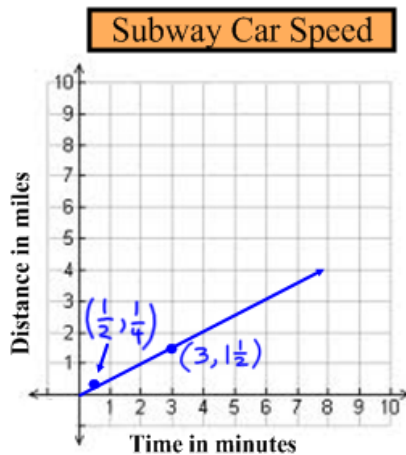
- Find the ratio of males to females.
- Find the ratio of females to males
- Find the ratio of females to total passengers.
- Find the speed of the subway car.

Example 2: The ratio table shows the costs for different amounts of artificial turf.
Find the unit rate in dollars per square foot.

amount(sq ft)	25	100	400	1600
cost (\$)	100	400	1600	6400

Example 3:

The graph shows the speed of a subway car. Find the speed in miles per minute.
Compare the speed to the speed of the subway car from example 1.



Use the point $(3, 1\frac{1}{2})$ to find the speed of the subway car.
Does the answer change? Explain.

Example 4: *Estimate* the unit rate.

a) \$74.75



b) \$1.19



c) \$2.35



Example 5: Write the ratio as a fraction in simplest form.

a) 25 to 45

b) 63:28

c) 35 girls : 15 boys

Example 6:

Use the ratio table to find the unit rate of servings per package.

packages	3	6	9	12
servings	13.5	27	40.5	54

SUMMARY

1. Give an example of two ratios that are equivalent.

2. Express as a unit rate $\frac{25 \text{ miles}}{15 \text{ gallons}}$

3. Which is the better buy? Explain. 3-pack of corn dogs for \$0.78 or 6-pack of corn dogs for \$1.44