

# Ratios

ratio

quantity

## 3 Types of Comparisons

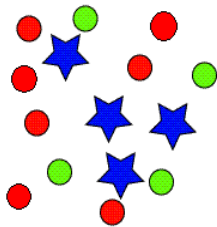


Part to Part
Part to Whole
Whole to Part

## Steps for Writing Ratios:

1. Find the total \_\_\_\_\_ of all objects in the group.
2. Find the quantity of \_\_\_\_\_ individual category of objects.
3. Make a \_\_\_\_\_ of how many objects of each type within the group.

Together:  
Find the ratios.



Stars to Circles \_\_\_\_\_

Stars to Total \_\_\_\_\_

Total to Circles \_\_\_\_\_

Pause & Try  
Find the ratios.



Hotdogs to Hamburgers \_\_\_\_\_

Hamburgers to Total \_\_\_\_\_

Total to Hamburgers \_\_\_\_\_

# RATIO TABLES

equivalent ratio

proportions

ratio table

cross multiply

Pencils	1	2		4	
Pens	3	6	9		15

## 3 Ways to Complete a Ratio Table

Make Equivalent Fractions	
Solve the Proportions	
Use a Multiplication Chart	

**Together:**  
Complete the ratio tables below.

Euros	5	10	
Dollars	4		32

BOYS	9115

Fill out the ratio table.  
For every 2 boys in your class, there are 3 girls. If there are 4 boys, how many girls are there? If there are 12 girls, how many boys?

**Pause & Try**  
Complete the ratio tables below.

Dogs	4		24
Cats	6	12	

VIOLINS	CELLOS

Fill out the ratio table.  
For every 8 violins there are 3 cellos. If there are 24 violins, how many cellos will there be?

# Rates & Unit Rate

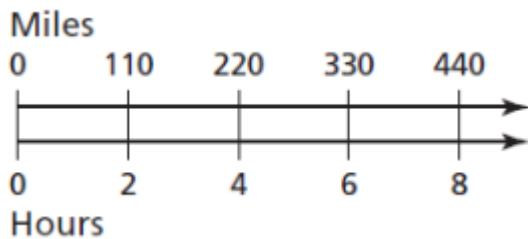
rate

unit rate

per

equivalent rate

Ex. Write the rate and find the unit rate.



Ex. Find the unit rate.

4 apples for \$ 1.20

Ex. Decide whether the rates are equivalent.

126 points every 3 games

210 points every 5 games

Steps to find the UNIT RATE:

1. Write the rate as a \_\_\_\_\_ in fraction form.
2. Solve the \_\_\_\_\_ problem.

Hint:

*Money is always the numerator in a rate!!*

Together:

Write the rate as a ratio. Find the unit rate.

1. \$ 60 earned in 4 hours
2. 110 miles in 2 hours
3. 14 cups in 7 servings

Pause & Try:

1. \$ 16.20 for 4 pounds
2. 15 feet in 3 seconds
3. 24 degrees in 6 ours

# COMPARE & GRAPH RATIOS

comparing ratios

inference

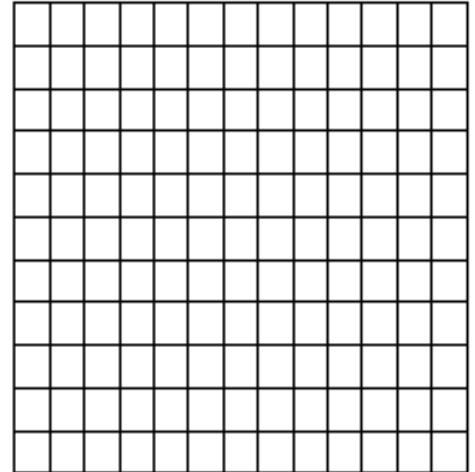
How can we use ratio tables to graph in the coordinate plane?

Balloon	
Time (seconds)	Height (meters)
3	9
6	18
9	
12	

Ex. A hot air balloon rises 9 meters every 3 seconds. A blimp rises 7 meters every 2 seconds.  
Which aircraft rises faster?

Blimp	
Time (seconds)	Height (meters)
2	7
4	14
6	
8	

1. Make or complete a \_\_\_\_\_ table.
2. Label the x-axis with the \_\_\_\_\_ column of data.
3. \_\_\_\_\_ the y-axis with the second column of data.
4. Graph each of the ordered pairs \_\_\_\_\_.
5. Connect the \_\_\_\_\_.
6. Make an inference using the \_\_\_\_\_.

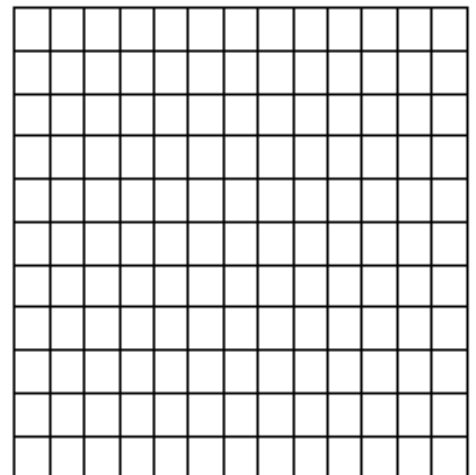


## Pause & Try

Complete each of the ratio tables. Then Graph the data on the coordinate plane.

Eagle	
Days	Pounds Eaten
1	1
2	
3	
4	

Crow	
Days	Pounds Eaten
2	3
4	
6	
8	



Which bird eats more food each day? \_\_\_\_\_

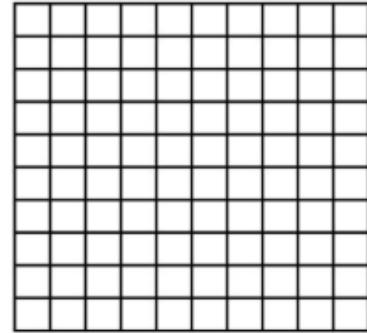
# PERCENTS

percent

per

## Percent to Fraction

1. Change the \_\_\_\_\_ to a fraction out of 100.
2. Simplify.



Percent	Fraction
40%	
65%	
	$\frac{3}{4}$
	$\frac{7}{8}$

## Fraction to Percent

1. Make an equivalent \_\_\_\_\_ using part to whole comparison with 100 as the whole.
2. Any numerator \_\_\_\_\_ 100 is equal to the same percent.

\*Or you could always \_\_\_\_\_!  $\frac{n}{d}$

## Together and Pause & Try:

$\% = \frac{1}{10}$	$20\% =$	$\% = \frac{1}{4}$
$30\% =$	$\% = \frac{2}{5}$	$50\% =$
$\% = \frac{3}{5}$	$70\% =$	$\% = \frac{3}{4}$
$80\% =$	$\% = \frac{9}{10}$	$100\% =$

# SOVING PERCENT PROBLEMS

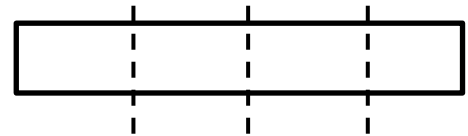
proportion

of

Together:

Pause & Try:

Use a diagram like a DOUBLE NUMBER LINE to find 25% of 40.



Use a RATIO TABLE to find 60% of 150.

Part			
Whole			

90% of 20?

Part			
Whole			

Set it up an EQUATION to find 25% of 80?

20% of 45.

Set up a PROPORTION to find 75% of what # is 72.

75% of what # is 48?

\_\_\_\_\_ = \_\_\_\_\_

\_\_\_\_\_ = \_\_\_\_\_

Always ask yourself if your answer seems reasonable.