

Topic 2 – Module 1 – Ratios

- ✓ November 2 – Introduction p. 29 & 30
- ✓ November 5 – 2.1.1 – It’s All Relative p. 31-32
- ✓ November 6 – No School – Election Day
- ✓ November 7 – 2.1.2 – Going Strong p. 33-34 ←
- ✓ November 8 – 2.1.3 – I am the Muffin Man p. 35-36
- ✓ November 9 – 2.1.4 – Using Tables p. 37-38
- November 12 & 13 – 2.1.5 Graphs p. 39-40
- November 14 – 2.1.6 Comparing Ratios p. 41-42
- November 19 – Module Review
- November 20 – Module Test

Module Materials

- 29 Textbook – Do not complete without teacher
- Skills Practice (after textbook) – as assigned
- Mathia – C.1. Ratio Reasoning.6 – as assigned
- C.1. Ratios & Rates.7 – as assigned
- Prodigy – Practice (available 24/7)

Handout from Mrs. D.

MODULE 2

TOPIC 1
RATIOS

Understand & write ratios

Know the difference between part to part and part to whole ratios

ratios - a comparison of two quantities that uses **division**

percent - a part to whole ratio where the whole is 100

- pages completed
- p. 7 Warm up 1-4
- p. 12 #1 a and b
- p.15 #1
- p 16 #2
- p. 17 #3
- p. 19 #1 a-f
- p. 23 Practice #1-6

Ratios

ratios definition
a comparison of two or more quantities

↓ ways to write ratios ↓

with a colon:
 $a:b$

as a fraction
 $\frac{a}{b}$

with the word to
a to b

Place one example under each tab, write one example

write the ratio of cats to total animals as a fraction
5 cats
3 dogs
8 total animals

write the ratio of pencils to markers with a colon
2 pencils
3 markers
 $\frac{2}{3}$

write the ratio of cups to plates using the word to
6 cups
9 plates
6 to 9

Glue title & 6 squares under each square.

Ratios

use colon •6 red crayons •2 blue crayons ratio of red to blue 6:2	use colon •10 x's •8 o's ratio of x's to o's 10:8
use fraction •3 squares •7 triangles ratio of squares to triangles 3/7	use fraction •5 green dots •9 orange ratio of green dots to total number of dots 5/14
use "to" •16 coins •11 pennies •3 nickles ratio of pennies to the total number of coins 11 to 14 (or 28)	use "to" •2 yellow books •4 brown books ratio of yellow to brown 2 to 4

x (after 32)

Glue in sheet. write answers in boxes

Ratio Practice

Write the ratio for each situation.

Cindy drew lines all over her paper. She drew 12 wavy lines and 9 straight lines. Write the ratio of wavy lines to straight lines using the word "to".
12 to 9 p to p

The case at the bakery held several different cakes. There were 5 cakes with writing on them and 11 cakes without writing. What is the ratio of cakes with writing to cakes without writing? Write the ratio in fraction form.
5/11 p/p

There were 25 people walking on the trail. 18 of the people were male and 7 were female. What is the ratio of females to the total number of walkers? Use the word "to" to write the ratio.
7 to 25 p to t(w)

John has 7 notebooks in his desk and 3 binders. Write the ratio of notebooks to binders using a colon.
7:3 p:p

At the kennel there are 6 brown dogs and 3 black dogs. What is the ratio of brown dogs to the total number of dogs? Write the ratio as a Fraction.
6/9 p/t(w)

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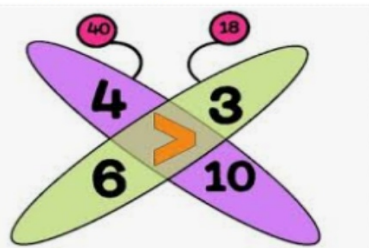
x

Use values and descriptions to compare ratios.

Compare and order part-to-part & part-to-whole ratios with words, pictures, & numbers.

< > or =

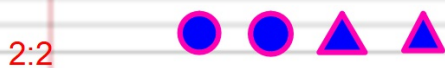
$$\frac{4}{6} > \frac{3}{10}$$



Remember fractions can be described by words, picture, numbers, ratios.

EX: All these describe the same situation and are equal.

There is one circle for each triangle
There are two circles and two triangles



2:2

2/2

1/2 the shapes are circles

2.1.3 I am the Muffin Man p. 37 11/8/18

Use drawings, tape diagrams, upscaling, downscaling, and double number lines to solve equivalent ratios.

equivalent ratios - ratios that represent equal part-to-part or part-to-whole relationships.

tape diagram - illustrates number relationships using rectangles to represent ratio parts.

rate - a ratio that compares two quantities that are measured in different units. ex: miles per gallon

proportion- an equation that states that two ratios are equal.

scaling up- multiply both parts of the ratio by the same factor greater than 1. ex:

$$\frac{5}{4} = \frac{20}{16}$$

Diagram showing the scaling of the ratio 5/4 to 20/16. An arrow labeled 'x4' points from 5 to 20, and another arrow labeled 'x4' points from 4 to 16.

Downscaling - dividing both parts of the ratios by the same factor greater than 1.

double number line - a model made up of two number lines used together to represent a ratio.

35

Get fill in the blank notes from Mrs. D.

Tape Diagram

definition

Looks Like

example

a visual model made up of two number lines used together to represent a ratio.

ratio of 6:2

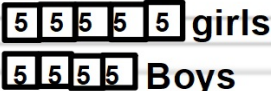
For every 2 scoops of chocolate yesterday, how many scoops of vanilla?

a tape diagram

Glue correct slip under each tab.

Tape Diagram

The ratio of girls to boys in the choir is 5:4. There are 25 girls in the choir. Use a tape diagram to find the number of boys in the choir.



The recipe calls for 3 oz of apple juice and 2 oz of grape juice. Draw a tape diagram to represent the ratio.

Joe ran 10 miles yesterday. Larry ran 7 miles yesterday. Draw a tape diagram to represent the ratio.

The book store has a used book bookcase filled with fiction and nonfiction books at a ratio of 6:2. The bookcase contains a total of 48 books. Use a tape diagram to find the number of fiction and nonfiction books on the bookcase.

1. find the ratio
2. draw tape
3. label tape
4. divide the squares (ratio#)
5. look at the question and divide as needed.
6. same number in every box

Draw a tape diagram for each situation.

Tape Diagram Practice

Use a tape diagram to solve each problem.

Sarah took a quiz and had 8 correct answers and 2 incorrect answers. If she continues this pattern, how many will she correct when she has 8 incorrect answers? Use a tape diagram to solve the problem.

The pattern on the paper included 12 red circles and 15 blue circles. How many blue circles will there be with 36 red circles? Use a tape diagram to solve the problem.

The bakery makes apple and cherry pies in a ratio of 5:3. There are 24 pies on the shelves. Use a tape diagram to find the number of cherry pies on the shelves.

Leann is painting rooms in a building. She needs gallons of blue and green paint in a ratio of 6:4. She bought 60 gallons of paint. Use a tape diagram to find the number of gallons of blue paint Leann needs to buy.

Sarah took a quiz and had 8 correct answers and 2 incorrect answers. If she continues this pattern, how many will she have correct when she has 8 incorrect answers? Use a tape diagram to solve the problem.



Equivalent mean EQUAL

1. "butterfly" to compare
2. Upscale to increase denominator
3. Downscale to decrease denominator (reduce)

2. copy these notes on next ISN page
Get glue-in from Mrs. D

Glue on next page.
do 2 example pages -

Complete Textbook page 48-49

x See Mrs. Darstein for next two x pages

Equivalent Ratios 2 ratios that are equal in value when simplified

To Create Equivalent Ratios:
1) Write the ratio as a fraction
2) Multiply or divide the numerator and the denominator by the same number

ratio 2:3	ratio 28:21
$\frac{2 \times 4}{3 \times 4} = \frac{8}{12}$	$\frac{28 \div 7}{21 \div 7} = \frac{4}{3}$

how-to create **example** how-to decide **example**

x

Equivalent Ratios

$\frac{6}{12}$	$\frac{1}{2}$	<input type="checkbox"/>
$\frac{81}{72}$	$\frac{9}{8}$	<input type="checkbox"/>
$\frac{5}{30}$	$\frac{1}{6}$	<input type="checkbox"/>
$\frac{5}{4}$	$\frac{5}{10}$	<input type="checkbox"/>
$\frac{5}{6}$	$\frac{5}{10}$	<input type="checkbox"/>
$\frac{3}{4}$	$\frac{3}{4}$	<input type="checkbox"/>
$\frac{10}{3}$	$\frac{10}{16}$	<input type="checkbox"/>
$\frac{14}{21}$	$\frac{2}{3}$	<input type="checkbox"/>

Glue Equivalent Ratios on previous page. do 2 example pages -

Complete Textbook page 48-49

See Mrs. Darstein for next two x pages

Equivalent Ratio Practice

Decide if the ratios are equal. If they are, color them orange. If they are not color them yellow. For the ones that you color yellow, fix the second ratio so they are equal.

$\frac{3}{8} = \frac{9}{24}$	$\frac{5}{3} = \frac{35}{18}$	$\frac{12}{36} = \frac{1}{3}$
$\frac{7}{10} = \frac{14}{30}$	$\frac{42}{18} = \frac{1}{2}$	$\frac{27}{30} = \frac{9}{10}$
$\frac{8}{72} = \frac{1}{9}$	$\frac{9}{2} = \frac{27}{8}$	$\frac{6}{7} = \frac{48}{56}$
$\frac{27}{18} = \frac{3}{2}$	$\frac{40}{35} = \frac{8}{5}$	$\frac{1}{2} = \frac{11}{22}$

in

x

x

Ratio Quiz

Complete each of the following:

Done??? Raise your hand.

$$\frac{1}{2} = \frac{x}{6} = \frac{7}{a} = \frac{y}{18} = \frac{12}{b} = \frac{z}{200}$$

$$\frac{100}{500} = \frac{10}{e} = \frac{25}{f} = \frac{5}{g}$$

Double Number Line Diagram

definition

Looks Like

example

lines
units

1 24
3 72

The recipe calls for 2 tablespoons of butter and 3 cups of flour. How much flour is needed for 10 tablespoons of butter. Draw a double number line diagram to solve the problem.

T.Butter

C.Flour

John works 4 hours a day and earns \$16. If he works 24 hours, how much will he earn? Draw a double number line to solve the problem.

The recipe calls for 32 oz of chicken and 6 potatoes. How much chicken will you need for 24 potatoes? Draw a double number line to solve the problem.

x

x

Double Number Line Practice

Use a double number line diagram to solve each problem.

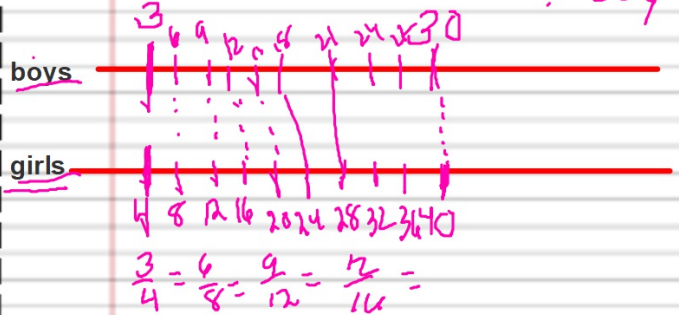
The recipe requires 2 teaspoons of salt for every 4 cups of flour. How much flour is needed for 6 teaspoons of salt? Use a double number line diagram to solve the problem.

The store sells apples 4 pounds for \$3. Jane purchased 16 pounds of apples. Use a double number line diagram to find out how much this recipe cost.

During Back to School time, the local store sells notebooks and binders at a ratio of 6:2. Use a double number line diagram to find how many binders were purchased if 15 notebooks were sold.

Bob walks 2 miles every day which takes him 30 minutes. How far would Bob walk in 3 hours? Use a double number line diagram to solve the problem.

There are 3 Boys for every 4 girls in a class. How many girls are there if there are 10 boys?



x

x

Module 2 Topic 1 Test Review

Review the following topics to be prepared for your test on 11/20

1. writing ratios to compare 2 quantities using colons, fractions, and the word "to"
2. Know the difference between part to part and part to whole ratios
3. Compare ratios (butterfly)
4. write ratios using percent
- X** 5. Draw models of ratios comparisons

6. Scale up and scale down

7. draw a double number line to represent ratios

8. draw a tape diagram to represent ratios

9. interpret ratio models, double number lines, and tape diagrams

Complete the practice sheets to be prepared. (handed out in class & on www.darstein.weebly.com) **X**

2.1.4 Using Tables p. 57 11/10/18
Use tables to represent equivalent ratios.

Equivalent Ratio Tables

pencils	4	8	12	16
pens	3	6	9	12

yellow paint	red paint
3	1
6	2
9	3

-The tables can be written vertically or horizontally.
 -The table can be completed by multiplying or dividing the first set of numbers by 2, 3, 4, etc.
 -All of the ratios should be equal to each other.

how-to
example

Equivalent Ratio Table Practice

Use an equivalent ratio table to solve each problem.

The package of marbles had a ratio of 7 yellow marbles to 10 green marbles. Complete the table to find the number of yellow marbles with 60 green marbles.

Each banana split has 2 bananas and 3 cherries. If the shop used 12 bananas, how many cherries were used? Draw a table to solve the problem.

The ratio of erasers to pencils in the class is 3:5. There are 25 pencils in the class. Complete the table to find the number of erasers.

The soccer team has a win/loss ratio of 12:8. Draw a table to find the number of wins if they lose 32 games.

problem.

There are 140 calories in 30 grams of crackers. If you ate 105 grams of crackers, how many calories would you consume? Draw a double number line to solve the problem.

John works 4 hours a day and earns \$18. If he works 28 hours, how much will he earn? Draw a double number line to solve the problem.

The recipe calls for 32 oz of chicken and 8 potatoes. How much chicken will you need for 24 potatoes? Draw a double number line to solve the problem.

calories

gram

