

Chapter 5	Ratios and Rates
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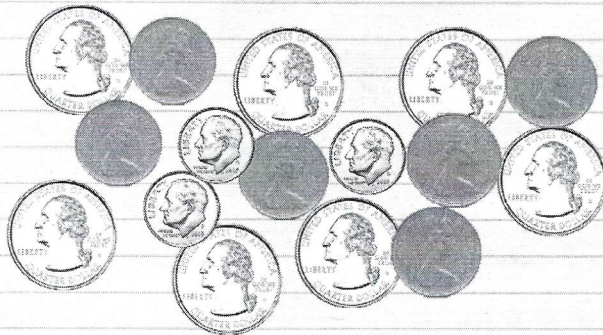
Date:	5.1 Ratios
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Essential Question	How can you represent a relationship between two quantities?
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Vocab	Word	Definition
	ratio	a comparison of two quantities using division. <u>Ratios</u> can be written three ways: 2/3, 2 to 3, and 2:3



- 1 red crayons to 3 blue crayons $1/3$ 1 to 3 1:3
- 1 red crayon for every 3 blue crayons $1/3$ 1 to 3 1:3
- 3 blue crayons per 1 red crayon $3/1$ 3 to 1 3:1
- 3 blue crayons for each red crayon $3/1$ 3 to 1 3:1
- 3 blue crayons out of every 4 crayons $3/4$ 3 to 4 3:4



1a. Write the ratio of pennies to quarters in three ways.

6:7 6 to 7 $\frac{6}{7}$ 6 pennies per 7 quarters
6 pennies for every 7 quarters

2b. Write the ratio of quarters to dimes in three ways.

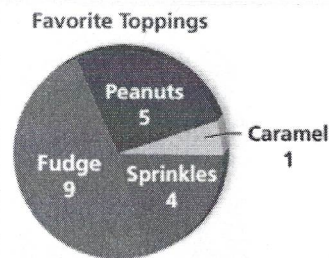
7:3 7 to 3 $\frac{7}{3}$ 7 quarters per 3 dimes
7 quarters for every 3 dimes

1c. Write the ratio of dimes to the total number of coins in three ways.

3:16 3 to 16 $\frac{3}{16}$ 3 dimes per 16 coins
3 dimes for every 16 coins

Writing Ratios

Complete number 1 on your notes page.



1a) Write a ratio of caramel to fudge in three different ways.

1:9 1 to 9 $\frac{1}{9}$ 1 caramel per 9 fudge
1 caramel for every 9 fudge

1b) Write a ratio of peanuts to all toppings in three different ways.

5:19 5 to 19 $\frac{5}{19}$ 5 peanuts per 19 toppings
5 peanuts for every 19 toppings

1c) Write a ratio of sprinkles to caramel in three different ways.

4:1 4 to 1 $\frac{4}{1}$ 4 sprinkles per 1 caramel
4 sprinkles for every 1 carame

	word	definition
Vocab	tape diagram	a diagram that looks like a segment of tape. It shows the relationship between two quantities.

Complete number 2 in your composition book.

- 2) The ratio of your monthly allowance to your friend's monthly allowance is 5:3. The monthly allowances total \$40. How much is each allowance?

You



Your allowance is \$25.

Your Friend



Your friend's allowance is \$15.

Each box needs the same value and the values need to have a sum of \$40.

There are 8 boxes so $40 \div 8 = 5$. Each box is worth \$5.

Complete numbers 2-3 on your notes page.

- 2) The ratio of the number of handfuls of popcorn you and your brother eat is 2:4. The total number of handfuls of popcorn eaten is 48. How many handfuls do each of you eat?

You

8	8
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You eat 16 handfuls.

Your Brother

8	8	8	8
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Your brother eats 32 handfuls.

Each box needs the same value and the values need to have a sum of 48.

There are 6 boxes so $48 \div 6 = 8$. Each box is worth 8 handfuls of popcorn.

- 3) In the continental United States, the ratio of states that border an ocean to states that do not border an ocean is 7 : 9. How many of the states border an ocean?

ocean

3	3	3	3	3	3	3
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no ocean

3	3	3	3	3	3	3	3	3
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Each box needs the same value and the values need to have a sum of 48 (48 states are in the continental US).

There are 16 boxes so $48 \div 16 = 3$. Each box is worth 3 states.

There are 21 states (3×7) that border the ocean.

Complete number 4 on your notes page.

- 4) You need to make 4 gallons of fruit punch for a party. The fruit punch you plan to make uses soda water, fruit punch concentrate and ginger ale in a ratio of 1 : 2 : 5. How many cups of each ingredient should you use to make 4 gallons of fruit punch? (Hint: There are 16 cups in each gallon.)

soda water

8

fruit punch concentrate

8	8
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ginger ale

8	8	8	8	8
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$16 \times 4 = 64$ cups in 4 gallons

$64 \div 8$ boxes = 8 in each box

8 cups of soda water

16 cups of fruit punch concentrate

40 cups of ginger ale