

Name: \_\_\_\_\_

6<sup>th</sup> Grade CCA Unit #2: Rational Numbers

Unit #2: Rational Numbers

Resources: Big Ideas Chapter 2

Common Core Standards: 7.NS.1a-d; 7.NS.2a-d; 7.NS.3

Number	Learning Targets	Common Core Standard	Resources
1	I can order, compare, and convert rational numbers into decimals and fractions.	7.NS.2b; 7.NS.2d	2.1
2	I can add rational numbers.	7.NS.1a, b, d; 7.NS.3	2.2
3	I can subtract rational numbers.	7.NS.1c, d; 7.NS.3	2.3
4	I can multiply and divide rational numbers.	7.NS.2a, b, c; 7.NS.3	2.4

My Practice:

Number	Pre-test:	Exit slip scores	Day #2 Homework	Extra Targeted Practice	Post-test:
1	_____/4				_____/7
2	_____/3				_____/8
3	_____/3				_____/8
4	_____/3				_____/8

My Final Pretest Score: \_\_\_\_\_ /13

My Final Pretest Percent \_\_\_\_\_ %

My Final Posttest Score: \_\_\_\_\_ /34

My Final Posttest Percent: \_\_\_\_\_ %

My percent of increase between the Pre and Post test scores = \_\_\_\_\_ !!

# My Academic Goal

My Goal is : \_\_\_\_\_

I will **achieve** my goal by : \_\_\_\_\_

To **achieve** my goal I will:

1) \_\_\_\_\_

2) \_\_\_\_\_

3) \_\_\_\_\_

4) \_\_\_\_\_

Potential Roadblocks to meeting my goal are:

1) \_\_\_\_\_

2) \_\_\_\_\_

3) \_\_\_\_\_

Strategies to overcome the roadblocks are:

1) \_\_\_\_\_

2) \_\_\_\_\_

3) \_\_\_\_\_

My goal is realistic and challenging and because

\_\_\_\_\_

\_\_\_\_\_

## Section 2.1: Rational Numbers Notes

**POD: Compare.** Use  $>$ ,  $<$ , or  $=$  to complete each statement.

1.)  $-5$  \_\_\_\_\_  $-8$

2.)  $-2$  \_\_\_\_\_  $-1.5$

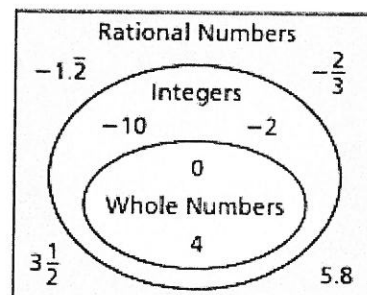
**Objective:** Students will be able to order, compare, and convert rational numbers into decimals and fractions.

**Vocabulary:**

**Rational Number:** A number that can be written as the ratio of two integers

**Terminating Decimal:** A decimal that ends

**Repeating Decimal:** Decimal that has a repeating pattern.



**Examples:** Write the rational number as a decimal

1.) $\frac{5}{6}$	2.) $-5\frac{5}{11}$	3.) $-2\frac{1}{4}$
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**Examples:** Write the decimal as a fraction in simplest form

4.) 0.28	5.) 0.125	6.) -11.35
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**Examples:** Compare using  $>$ ,  $<$ , or  $=$

7.) $-2.2$ _____ $-2.42$	8.) $-1.82$ _____ $-1.81$	9.) $-5\frac{3}{11}$ _____ $-5.\bar{2}$
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10.) The table shows the elevations of four sea creatures relative to sea level. Which of the sea creatures are deeper than the whale? Explain.

Convert all to decimals to compare:

Creature	Elevations (km)	Decimal
Anglerfish	$-\frac{13}{10}$	Anglerfish:
Squid	$-2\frac{1}{5}$	Squid:
Shark	$-\frac{2}{11}$	Shark:
Whale	$-0.8$	Whale:

**2.1** Rational Numbers Homework Day 1

Write the rational number as a decimal. Round to the nearest tenth.

1.  $-\frac{9}{10}$

2.  $-4\frac{2}{3}$

3.  $1\frac{7}{16}$

Write the decimal as a fraction or mixed number in simplest form.

4.  $-0.12$

5.  $5.22$

6.  $-1.25$

Order the numbers from least to greatest.

7.  $\frac{1}{5}, 0.1, -\frac{1}{2}, -0.25, 0.3$

8.  $-1.6, \frac{5}{2}, -\frac{7}{8}, 0.9, -\frac{6}{5}$

9.  $-\frac{2}{3}, \frac{5}{9}, 0.5, -1.3, -\frac{10}{3}$

10. The table shows the position of each runner relative to when the first place finisher crossed the finish line. Who finished in second place? Who finished in fifth place?

Runner	A	B	C	D	E	F
Meters	-1.264	$-\frac{5}{4}$	-1.015	-0.480	$-\frac{14}{25}$	$-\frac{13}{8}$

## 2.1 Rational Numbers Homework Day 2

Write the rational number as a decimal. Round to the nearest tenth.

1.  $\frac{5}{9}$

2.  $5\frac{1}{6}$

3.  $-\frac{3}{11}$

Write the decimal as a fraction or mixed number in simplest form.

4. 0.7

5. -2.07

6. -0.43

7. 1.25

Order the numbers from least to greatest.

8.  $1.6, -\frac{2}{3}, -0.5, \frac{3}{2}, -\frac{5}{2}$

9. You caught a red snapper that is  $8\frac{5}{12}$  inches long. Your friend caught a red snapper that is  $8\frac{6}{13}$  inches long. Who caught the larger red snapper?

Copy and complete the statement using  $<$ ,  $>$ , or  $=$ .

10.  $0.13 \underline{\quad ? \quad} \frac{1}{8}$

11.  $-1\frac{2}{9} \underline{\quad ? \quad} -\frac{5}{4}$

12.  $-5.175 \underline{\quad ? \quad} -5\frac{1}{6}$

13. The table gives the tidal changes in the water level of a lagoon for every six hours of a given day.

Time	4:00 A.M.	10:00 A.M.	4:00 P.M.	10:00 P.M.
Change (feet)	2.25	$-2\frac{6}{7}$	$-\frac{3}{2}$	$2\frac{1}{3}$

- a. Order the numbers from least to greatest.
- b. At what time(s) did the water level decrease?

## Section 2.2: Adding Rational Numbers Notes

POD: Compare. Convert both fractions to a common denominator.

1.)  $\frac{3}{4}$  \_\_\_\_\_  $\frac{5}{6}$

2.)  $\frac{2}{3}$  \_\_\_\_\_  $\frac{4}{5}$

Objective: Students will be able to add rational numbers.

Rules for adding fractions with different denominators:

1. Find their least common denominator.
2. Change the fractions according to their least common denominators.
3. Add or subtract the numerators.
4. Keep the common denominator.
5. Simplify.

Examples:

1.) $\frac{3}{4} + \frac{1}{6}$	2.) $\frac{1}{3} + (-\frac{4}{5})$
3.) $-1\frac{1}{5} + -\frac{1}{2}$	4.) $\frac{15}{4} + -3\frac{1}{3}$
5.) $-5.8 + 3.7$	6.) $-2.5 + -3.2$
7.) Your bank account balance is -20.85. You deposit \$10.50. What is your new balance?	

**2.2****Adding Rational Numbers Homework Day 1**

Add. Write fractions in simplest form. Show all of your work.

1.  $\frac{5}{16} + \left(-\frac{7}{16}\right)$

2.  $\frac{3}{5} + \left(-\frac{4}{15}\right)$

3.  $-\frac{7}{2} + 3\frac{2}{3}$

4.  $5.6 + (-1.3)$

5.  $-8.6 + 5.4$

6.  $-7.12 + -12.76$

7. Describe and correct the error in finding the sum.

$\times \quad \frac{3}{10} + \left(-\frac{1}{10}\right) = \frac{3+1}{10} = \frac{4}{10} = \frac{2}{5}$

8. The temperature is  $-12.6$  degrees Celsius. The temperature goes up  $7.2$  degrees. What is the new temperature?

9. You finish  $\frac{3}{8}$  of the project. Your friend finishes  $\frac{1}{4}$  of the project. What fraction of the project is finished?

**2.2 Adding Rational Numbers Homework Day 2****Add. Write fractions in simplest form.**

1.  $\frac{2}{5} + \left(-\frac{3}{15}\right)$

2.  $\frac{3}{4} + \left(-1\frac{2}{3}\right)$

3.  $\frac{2}{3} + \left(-1\frac{1}{2}\right)$

4.  $7.21 + (-13.43)$

5.  $-8.87 + 5.65$

6.  $-5.75 + -2.74$

7. Describe and correct the error in finding the sum.

$\times \quad 2\frac{5}{6} + \left(-\frac{8}{15}\right) = \frac{13}{6} + \left(-\frac{8}{15}\right) = \frac{65 + (-16)}{30} = \frac{49}{30} = 1\frac{19}{30}$

8. Your banking account balance is  $-\$1.56$ . You deposit  $\$10$ . What is your new balance?9. You mow  $\frac{1}{3}$  of the lawn. Your sister mows  $\frac{2}{7}$  of the lawn. What fraction of the lawn is mowed?



## Section 2.3: Subtracting Rational Numbers Notes

POD: Solve.

1.)  $\frac{7}{12} + \frac{1}{6} =$

2.)  $\frac{1}{2} + \frac{4}{5} =$

**Objective:** Students will be able to subtract rational numbers.

**Rules for subtracting fractions with different denominators:**

1. Find their least common denominator.
2. Change the fractions according to their least common denominators.
3. Add or subtract the numerators.
4. Keep the common denominator.
5. Simplify.

1.) $-\frac{1}{2} - \left(-\frac{5}{9}\right)$	2.) $-5 - \frac{5}{3}$
3.) $-4\frac{1}{7} - \left(-\frac{6}{7}\right)$	4.) $12.8 - 21.9$
5.) $-8.4 - 6.7$	6.) Find the distance between $-2.2$ & $8.4$
7.) A cook has $2\frac{2}{3}$ cups of flour. A recipe calls for $2\frac{3}{4}$ cups of flour. Does the cook have enough flour?	

**2.3****Subtracting Rational Numbers Homework Day 1**

**Subtract. Write fractions in simplest form.**

1.  $\frac{3}{7} - \frac{10}{7}$

2.  $-\frac{1}{3} - \left(-\frac{9}{4}\right)$

3.  $-2\frac{1}{2} - 1\frac{3}{5}$

4.  $-2.11 - (-6.35)$

5.  $2 - 8.25$

**Find the distance between the two numbers on a number line.**

6.  $-3.1, -5.7$

7. Your dog's water bowl is  $\frac{3}{4}$  full. After taking a drink, the water bowl is  $\frac{1}{3}$  full. What fraction of the bowl did the dog drink?

8. Mary filled a water cooler with  $3\frac{1}{2}$  gallons of water. She forgot to close the plug and  $1\frac{5}{6}$  gallons leaked out.

- a. How many gallons of water remain in the cooler?
- b. She adds  $1\frac{1}{4}$  gallons. How many gallons of water are now in the cooler?

**2.3 Subtracting Rational Numbers Homework Day 2**

**Subtract. Write fractions in simplest form.**

1.  $-\frac{7}{3} - \frac{1}{2}$

2.  $-\frac{3}{4} - \left(-\frac{2}{5}\right)$

3.  $-1\frac{5}{6} - \left(-2\frac{1}{4}\right)$

4.  $-5.65 - 4.2$

5.  $-10.43 - (-11.94)$

**Find the distance between the two numbers on a number line.**

6.  $-9.2, 4.5$

7. Kathy and Kevin ordered a pizza to share. Kathy ate  $\frac{1}{4}$  of the pizza and Kevin ate  $\frac{5}{12}$  of it. What is the difference between how much pizza Kevin ate and how much pizza Kathy ate?

8. Douglas poured  $3\frac{1}{2}$  cups of flour into his mixing bowl. If the chocolate chip recipe calls for 5 cups of flour, how much more flour does he need?

9.) Which expression does not belong with the other three? Explain your reasoning.

$-\frac{5}{8} - \frac{3}{4}$

$-\frac{3}{4} + \frac{5}{8}$

$-\frac{5}{8} + \left(-\frac{3}{4}\right)$

$-\frac{3}{4} - \frac{5}{8}$

## Section 2.4: Multiplying and Dividing Rational Numbers Notes

POD: Solve.

1.)  $-\frac{4}{5} - \left(-\frac{2}{3}\right)$

2.)  $1\frac{1}{2} - 2\frac{2}{3}$

**Objective:** Students will be able to multiply and divide rational numbers.

### Steps for Multiplying Fractions:

1. Write each number as a fraction.
2. Multiply the numerators.
3. Multiply the denominators.
4. Simplify.

\*\*\*YOU DO NOT NEED TO FIND A COMMON DENOMINATOR!

\*\*\*YOU MAY SIMPLIFY THE FRACTIONS BEFORE MULTIPLYING!

1.) $\frac{5}{8} \cdot \frac{2}{3}$	2.) $-\frac{1}{4} \cdot -\frac{4}{3}$
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### Steps for Dividing by a Fraction:

1. Write each number as an improper fraction.
2. Rewrite the **second** fraction as a reciprocal (FLIP!)
3. Follow the rules for multiplying fractions.

\*\*DIVIDING A FRACTION IS THE SAME AS MULTIPLYING ITS RECIPROCAL!

3.) $-\frac{3}{10} \div \frac{2}{5}$	4.) $-2\frac{4}{5} \div -7$
5.) Rosa makes $2\frac{1}{2}$ cups of pudding. If she splits the pudding into cups of $\frac{1}{3}$ for each serving, how many servings can she get from the pudding?	

**2.4** Multiplying and Dividing Rational Numbers Homework Day 1

Tell whether the expression is *positive* or *negative* without evaluating.

1.  $\frac{-7.5}{4.25}$

2.  $\frac{4}{9} \times \left(-\frac{6}{7}\right)$

3.  $-\frac{1}{5} \div \left(-\frac{2}{3}\right)$

4.  $-3.2 \times (-1.7)$

**Multiply. Write fractions in simplest form.**

5.  $\frac{2}{5} \times \left(-\frac{10}{7}\right)$

6.  $-\frac{3}{4} \cdot \left(-\frac{10}{9}\right)$

7.  $\frac{2}{3} \cdot \left(-2\frac{1}{4}\right)$

**Divide. Write fractions in simplest form.**

8.  $-\frac{1}{2} \div \left(-\frac{3}{4}\right)$

9.  $\frac{2}{3} \div (-10)$

10.  $-1\frac{1}{6} \div \frac{5}{3}$

11. There are 15 people in a room. Each person ate  $\frac{2}{3}$  of a pizza. There was no pizza remaining. How many pizzas were in the room?

12. Maddy makes  $3\frac{1}{2}$  cups of pudding. If she splits the pudding into cups of  $\frac{1}{3}$  for each serving, how many servings can she get from the pudding?

**2.4****Multiplying and Dividing Rational Numbers Homework Day 2****Multiply. Write fractions in simplest form.**

1.  $\frac{3}{5} \cdot -\frac{3}{4}$

2.  $-3 \cdot \frac{4}{5}$

3.  $-2\frac{2}{3} \cdot -1\frac{1}{4}$

**Divide. Write fractions in simplest form.**

4.  $-\frac{2}{3} \div \frac{5}{9}$

5.  $\frac{7}{13} \div (-2)$

6.  $-2\frac{4}{5} \div -7$

7. You are going to make  $\frac{3}{4}$  pound burgers for 16 people. How many pounds of hamburger do you need to buy?

8. In a game of tug of war, your team changes  $-1\frac{2}{5}$  feet in position every 10 seconds. What is your change in position after 30 seconds?

9. You have  $7\frac{1}{2}$  pounds of cashews and are going to split it up evenly between 10 people. How many pounds of cashews does each person get?

## Chapter 2 Homework Answer Key:

### 2.1 Homework Day 1 Answer Key:

1.) -0.9	2.) -4.7	3.) 1.4	4.) $-\frac{3}{25}$	5.) $5\frac{11}{50}$	6.) $-1\frac{1}{4}$	7.) $-\frac{1}{2}, -0.25, 0.1, \frac{1}{5}, 0.3$
8.) -1.6, $-\frac{6}{5}, -\frac{7}{8}, 0.9, \frac{5}{2}$	9.) $-\frac{10}{3}, -1.3, -\frac{2}{3}, 0.5, \frac{5}{9}$					10.) D is 2 <sup>nd</sup> ; B is 5 <sup>th</sup>

### 2.1 Homework Day 2 Answer Key:

1.) 0.6	2.) 5.2	3.) -0.3	4.) $\frac{7}{10}$	5.) $-2\frac{7}{100}$	6.) $-\frac{43}{100}$	7.) $1\frac{1}{4}$	8.) $-\frac{5}{2}, -\frac{2}{3}, -0.5, \frac{3}{2}, 1.6$
9.) Friend	10.) >	11.) >	12.) <	13a.) $-2\frac{6}{7}, -\frac{3}{2}, 2.25, 2\frac{1}{3}$			13b.) 10 a.m.

### 2.2 Homework Day 1 Answer Key:

1.) $-\frac{1}{8}$	2.) $\frac{1}{3}$	3.) $\frac{1}{6}$	4.) 4.3	5.) -3.2	6.) -19.88	7.) Lost the negative on the 1; Should be $\frac{1}{5}$
8.) -5.4°	9.) $\frac{5}{8}$ of the project					

### 2.2 Homework Day 2 Answer Key:

1.) $\frac{1}{5}$	2.) $-\frac{11}{12}$	3.) $-\frac{5}{6}$	4.) -6.22	5.) -3.22	6.) -8.49	7.) Improper fraction should be: $\frac{17}{6}$ ,
8.) \$8.44	9.) $\frac{13}{21}$ of a lawn					so the final answer would be $2\frac{3}{10}$

### 2.3 Homework Day 1 Answer Key:

1.) -1	2.) $1\frac{11}{12}$	3.) $-4\frac{1}{10}$	4.) 4.24	5.) -6.25	6.) 2.6	7.) $\frac{5}{12}$ of bowl	8a.) $1\frac{2}{3}$ gallons
8b.) $2\frac{11}{12}$ gallons							

### 2.3 Homework Day 2 Answer Key:

1.) $-2\frac{5}{6}$	2.) $-\frac{7}{20}$	3.) $\frac{5}{12}$	4.) -9.85	5.) 1.51	6.) 13.7	7.) $\frac{1}{6}$ of pizza	8.) $1\frac{1}{2}$ cups flour
9.) $-\frac{3}{4} + \frac{5}{8}$ ; This is the only one that has a positive $\frac{5}{8}$							

### 2.4 Homework Day 1 Answer Key:

1.) Negative	2.) Negative	3.) Positive	4.) Positive	5.) $-\frac{4}{7}$	6.) $\frac{5}{6}$	7.) $-1\frac{1}{2}$	8.) $\frac{2}{3}$
9.) $-\frac{1}{15}$	10.) $-\frac{7}{10}$	11.) 10 pizzas	12.) $10\frac{1}{2}$ servings				

### 2.4 Homework Day 2 Answer Key:

1.) $-\frac{9}{20}$	2.) $-2\frac{2}{5}$	3.) $3\frac{1}{3}$	4.) $-1\frac{1}{5}$	5.) $-\frac{7}{26}$	6.) $\frac{2}{5}$	7.) 12 pounds	8.) $-4\frac{1}{5}$ feet	9.) $\frac{3}{4}$ pound
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