

MANEUVERING THE MIDDLE

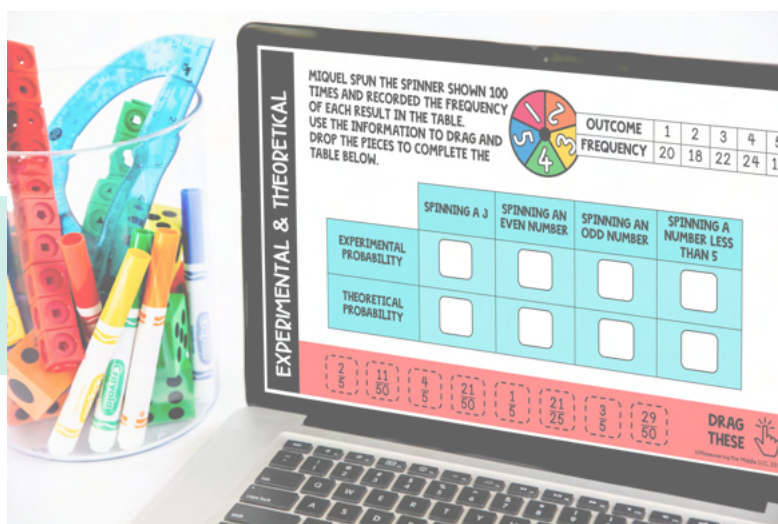
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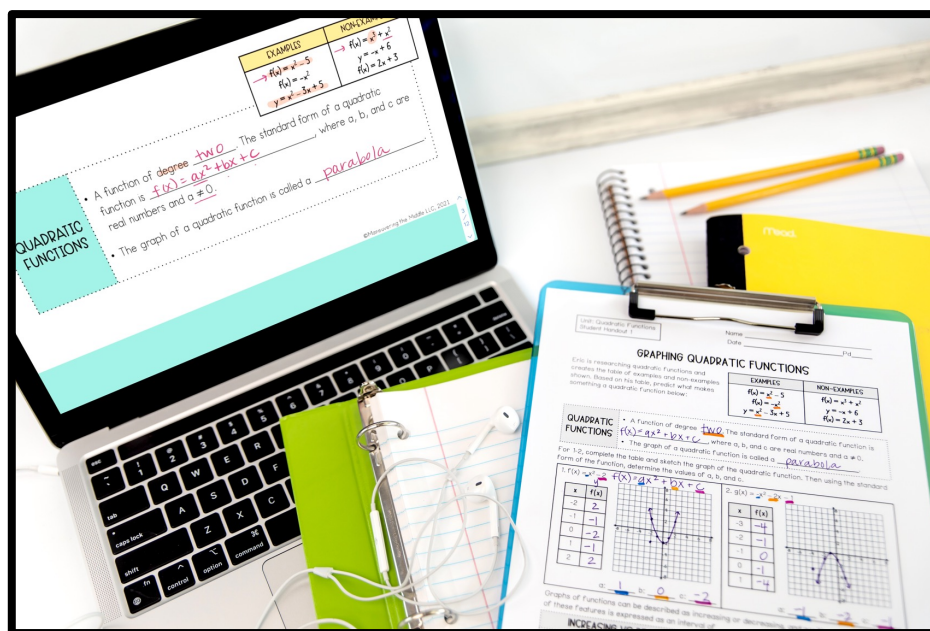
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- ✓ Supplemental Digital Components: digital activities, teaching slides, Google Form™ assessments
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rational number operations unit

7th ccss planning guide

A MANEUVERING THE MIDDLE® RESOURCE

what is it?

This resource has been designed to model the process presented in the math training, “A Step-by-Step Plan for Unfinished Learning”. Please use the information provided to jump start your planning for the school year.

how does it work?

A planning guide has been included for each of the key topics in Unit 1: Rational Number Operations. Each guide will help you prepare for formative assessment opportunities, common student misconceptions, instructional strategies you can use to reach your students and suggestions for utilizing activities to best support your students’ needs.

PAGE	TOPIC	RESOURCE
5	Adding and Subtracting Integers	Planning Guide
7	Adding and Subtracting Rational Numbers	Planning Guide
9	Multiplying and Dividing Integers	Planning Guide
11	Multiplying and Dividing Rational Numbers	Planning Guide
13	Adding and Subtracting Integers	Cut and Paste Activity
19	Rational Number Operations	Error Analysis Activity

learn more about All Access

The hands-on activities included are a brief sample of one element of our All Access membership. All Access is math curriculum designed to meet students’ needs and empower teachers. You can find out more by clicking the link below.

maneuveringthemiddle.com/math-curriculum

adding and subtracting integers

goal

Students should be able to apply and extend previous understandings to add and subtract with integers.

prior skills

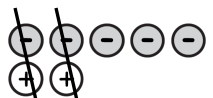
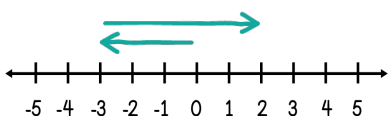

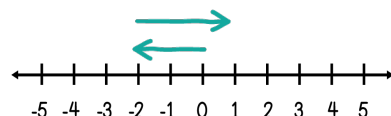
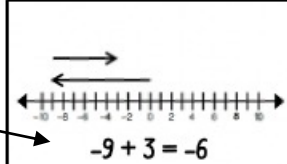
In previous grades, students solved problems involving adding and subtracting rational numbers.

related materials

- Unit 1, Student Handout 2
- Unit 1, Student Handout 3

	adding integers	subtracting integers								
formative assessments	<div>$-9 + 6 =$ student handout 2</div> <div>$-5 + (-9) =$ student handout 2</div>	<div>$-5 - (-8) =$ student handout 3</div> <div>$3 - 9 =$ student handout 3</div>								
common misconceptions	<p>Students may overlook negative signs (ex. 1) or may apply integer multiplication rules to addition and think that adding two negative values equals a positive sum (ex. 2).</p> <table><tr><th>example 1</th><th>example 2</th></tr><tr><td>$12 + (-3) = 15$ $-8 + 2 = 10$</td><td>$-9 + (-3) = 12$ $-1 + (-5) = 6$</td></tr></table>	example 1	example 2	$12 + (-3) = 15$ $-8 + 2 = 10$	$-9 + (-3) = 12$ $-1 + (-5) = 6$	<p>Students may overlook negative signs (ex. 1) or may simply subtract the numbers and add a negative sign to their answer (ex. 2).</p> <table><tr><th>example 1</th><th>example 2</th></tr><tr><td>$-15 - 7 = 8$ $20 - (-4) = 16$</td><td>$20 - (-7) = -13$ $-10 - 5 = -5$</td></tr></table>	example 1	example 2	$-15 - 7 = 8$ $20 - (-4) = 16$	$20 - (-7) = -13$ $-10 - 5 = -5$
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$-15 - 7 = 8$ $20 - (-4) = 16$	$20 - (-7) = -13$ $-10 - 5 = -5$									

adding and subtracting integers

	adding integers	subtracting integers
instructional strategies	<p>rephrase it: provide context to addition statements by relating the values to owing and depositing money, losing and gaining yards in a football game, or changes in temperature</p> <p>$-3 + 8 = 5 \rightarrow$ "Kim's bank account was $-\\$3$. She deposited $\\$8$, and her balance is now $\\$5$."</p> <p>model it: use counters as a concrete example when introducing addition of integers</p> <p>$-5 + 2 = -3 \rightarrow$ </p> <p>picture it: use horizontal and/or vertical number lines to model addition of integers; students can utilize this strategy by sketching their own number lines on any addition problem</p> <p>$-3 + 5 = 2 \rightarrow$ </p>	<p>rephrase it: provide context to subtraction statements and rewrite subtraction problems as adding the opposite when helpful</p> <p>$-11 - 2 = -13 \rightarrow$ "The temperature was -11°F and dropped 2 degrees. The temperature is now -13°F."</p> <p>model it: use counters as a concrete example when introducing subtraction of integers</p> <p>$4 - (-1) = 5 \rightarrow$ </p> <p>picture it: use horizontal and/or vertical number lines to model subtraction of integers; use this visual to make connections to the concept that subtraction is the same as adding the opposite</p> <p>$-2 - (-3) = 1$ $-2 + 3 = 1 \rightarrow$ </p>
extra practice and resources	<p>Adding and Subtracting Integers Cut and Paste*</p> <p>The cut and paste activity allows students to connect addition and subtraction of integers to a number line model and then the solution. Consider the following as needed:</p> <ul style="list-style-type: none"> Students may benefit from writing the addition or subtraction statement and solution on the number line cards before matching the number line cards to the problems and solutions (example below). Students can work through the activity in any order. Consider guiding students to complete the basic addition and subtraction problems before moving on to the word problem examples. <p>Students can write equations on the number line card before matching it to the given problems and solution cards.</p> <div data-bbox="1344 1226 1648 1404">  </div>	

*Adding and Subtracting Integers Cut and Paste is included in this PDF on pages 13-18.

adding and subtracting rational numbers

goal

Students should be able to apply and extend previous understandings to add and subtract rational numbers.

prior skills

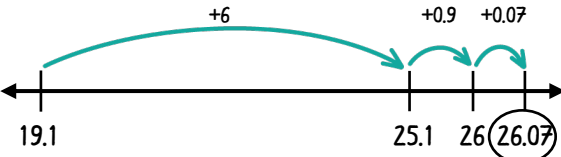
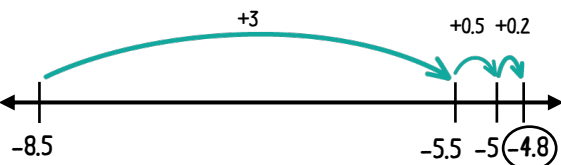
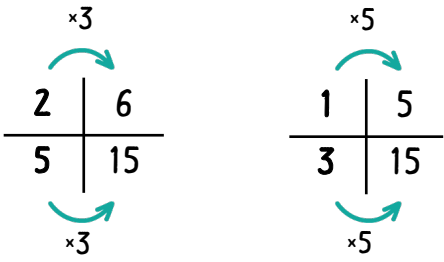
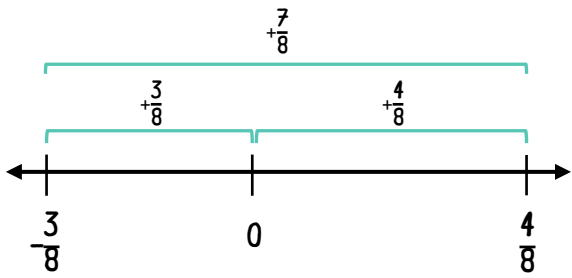
In previous grades, students solved problems involving adding and subtracting positive rational numbers.

related materials

- Unit 1, Student Handout 4
- Unit 1, Student Handout 5
- Unit 1, Student Handout 6

	adding and subtracting decimals	adding and subtracting fractions
formative assessments	<div> $-2.5 + 10.7 = \underline{\hspace{2cm}}$ <p>student handout 4</p> </div> <div> $-0.6 - 4.6 = \underline{\hspace{2cm}}$ <p>student handout 4</p> </div>	<div> $-\frac{3}{4} + (-1\frac{3}{4}) = \underline{\hspace{2cm}}$ <p>student handout 5</p> </div> <div> $-\frac{5}{6} - \frac{3}{6} = \underline{\hspace{2cm}}$ <p>student handout 5</p> </div>
common misconceptions	<p>Students may forget to add/subtract like place values (ex. 1) or may not correctly apply integer rules (ex. 2).</p> <div> <div> <p>example 1</p> $\begin{array}{r} 8.4 \\ + .62 \\ \hline 14.6 \end{array}$ </div> <div> <p>example 2</p> $\begin{array}{l} -3 - 1.5 = 1.5 \\ 10.2 + (-3.6) = -13.8 \end{array}$ </div> </div>	<p>Students may not find a common denominator (ex. 1) or may not correctly apply integer rules (ex. 2).</p> <div> <div> <p>example 1</p> $-\frac{2}{3} + (-\frac{3}{4}) = -\frac{5}{7}$ </div> <div> <p>example 2</p> $-\frac{4}{5} - (\frac{2}{5}) = -\frac{2}{5}$ </div> </div>

adding and subtracting rational numbers

	adding and subtracting decimals	adding and subtracting fractions
instructional strategies	<p>picture it: use an open number line to provide a flexible visual that will help students make sense of their solutions and apply reasonableness</p> <p>simplify it: consider allowing students to add or subtract in “chunks” on an open number line in order to strategically get to numbers that are easier to work with (see examples below)</p> <p>rewrite it: when subtracting positive and negative values, remind students that subtraction has the same result as adding the opposite</p> <div> $19.1 + 6.97$  </div> <div> $-8.5 - (-3.7)$ $-8.5 + 3.7$  </div>	<p>organize it: use ratio tables to help students struggling to generate equivalent fractions with a common denominator (example below)</p> <div> $\frac{2}{5} + \frac{1}{3} = \frac{6}{15} + \frac{5}{15}$  </div> <p>picture it: an open number line and allowing students to add or subtract in “chunks” may be especially helpful when adding and subtracting negative fractions</p> <div> $-\frac{3}{8} + \frac{7}{8}$  </div>
extra practice and resources	<p>Adding and Subtracting Rational Numbers Solve and Color*</p> <p>Consider using the solve and color problems as class practice on dry erase boards. One or two examples from each of the skills listed below could be practiced as a class before allowing students to continue with the rest independently.</p> <ul style="list-style-type: none"> • Adding and decimals (positive values only): #6, 9, 16 • Adding and subtracting fractions (positive values and solutions only): #5, 13 • Adding and subtracting decimals (positive and negative values and/or solutions): #1, 3, 8, 11, 14 • Adding and subtracting fractions (positive and negative values and/or solutions): #2, 4, 7, 10, 12, 15 <p>Rational Number Operations Error Analysis**</p> <p>While the error analysis activity includes all four operations with rational numbers, consider using the first four cards for higher level thinking and application of adding and subtracting rational numbers.</p>	

*Adding and Subtracting Rational Numbers Solve and Color is included as a part of the 7th Grade All Access Membership.

**Rational Number Operations Error Analysis is included in this PDF on pages 19-27.

multiplying and dividing integers

goal

Students should be able to apply and extend previous understandings to multiply and divide with integers.

prior skills

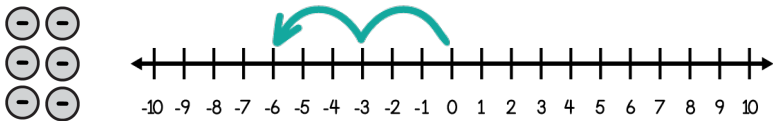


In previous grades, students solved problems involving multiplying and dividing with rational numbers.

related materials

- Unit 1, Student Handout 7

	multiplying integers	dividing integers												
formative assessments	<p>Three friends are playing a card game. The person who draws a card with an expression equivalent to $(-2)(40)$ wins. Which player won?</p> <div><div>AMARI</div><div>$-8(-10)$</div></div> <div><div>JUNE</div><div>$-5(-2)(8)$</div></div> <div><div>RILEY</div><div>$-4(-4)(-5)$</div></div> <p>student handout 7</p>	<div>$78 \div (-6) =$<p>student handout 7</p></div> <div>$\frac{-85}{17} =$<p>student handout 7</p></div>												
	common misconceptions	<p>When the signs are different, students may disregard the negative sign or interpret the negative sign as subtraction (ex. 1). When the signs are the same, students may think two negative values should result in a negative product (ex. 2).</p> <table><tr><td>example 1</td><td>example 2</td></tr><tr><td>$-8 \cdot 3 = 24$</td><td>$-6 \cdot (-3) = -18$</td></tr><tr><td>$25(-4) = 21$</td><td>$-12(-2) = -24$</td></tr></table>	example 1	example 2	$-8 \cdot 3 = 24$	$-6 \cdot (-3) = -18$	$25(-4) = 21$	$-12(-2) = -24$	<p>When the signs are different, students may disregard the negative sign (ex. 1). When the signs are the same, students may think two negative values should result in a negative quotient (ex. 2).</p> <table><tr><td>example 1</td><td>example 2</td></tr><tr><td>$-42 \div 2 = 21$</td><td>$-56 \div (-8) = -7$</td></tr><tr><td>$-108 \div 9 = 12$</td><td>$-30 \div (-3) = -10$</td></tr></table>	example 1	example 2	$-42 \div 2 = 21$	$-56 \div (-8) = -7$	$-108 \div 9 = 12$
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$-42 \div 2 = 21$	$-56 \div (-8) = -7$													
$-108 \div 9 = 12$	$-30 \div (-3) = -10$													

multiplying and dividing integers

	multiplying integers	dividing integers
instructional strategies	<p>rephrase it: refer to multiplication as “groups of” in order to help students’ understanding of integer rules with multiplication; remind students that a negative sign can also represent the “opposite”</p> <p>$8 \cdot 3$ “8 groups of 3”</p> <p>$-8 \cdot 3$ “the opposite of 8 groups of 3”</p> <p>$8 \cdot (-3)$ “8 groups of -3”</p> <p>$-8 \cdot (-3)$ “the opposite of 8 groups of -3”</p> <p>model it: use counters and number lines as a visual to give concrete experience with multiplying integers and its related rules</p> <p>$2 \cdot (-3) = -6$</p>  <p>“2 groups of -3 gives us -6”</p>	<p>model it: use counters as visual examples to help reinforce that when the signs are the same the quotient is positive and when the signs are different the quotient is negative</p> <p>$-12 \div 3 = -4 \rightarrow$</p>  <p>“-12 divided into 3 groups gives us -4 in each group”</p> <p>$-10 \div -2 = 5 \rightarrow$</p>  <p>“-10 divided into groups of -2 gives us 5 groups”</p>
extra practice and resources	<p>Multiplying and Dividing Integers Speed Dating*</p> <p>Consider using the speed dating activity in a traditional class setting as an engaging and fun way for students to practice becoming experts at multiplying and dividing integers as well as communicating their learning. Speed dating cards can also provide helpful examples to use with a small group and have different levels of cards to choose from as needed:</p> <ul style="list-style-type: none"> • Cards with two values only (labeled with triangular numbering) • Cards with three or more values (labeled with circular numbering) 	

* Multiplying and Dividing Integers Speed Dating is included as a part of the 7th Grade All Access Membership.

multiplying and dividing rational numbers

goal

Students should be able to apply and extend previous understandings to multiply and divide rational numbers.

prior skills

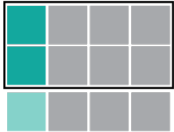
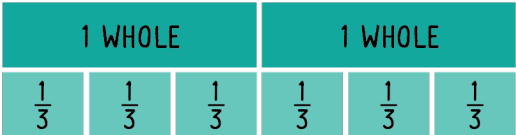
In previous grades, students solved problems involving multiplying and dividing positive rational numbers.

related materials

- Unit 1, Student Handout 8
- Unit 1, Student Handout 9

	multiplying and dividing decimals	multiplying and dividing fractions								
formative assessments	<div>$-15.6(-2) = \underline{\hspace{2cm}}$ student handout 8</div> <div>$16.8 \div (-4) = \underline{\hspace{2cm}}$ homework 8</div>	<div>$-\frac{2}{3} \div \frac{1}{2} = \underline{\hspace{2cm}}$ student handout 8</div> <div>$-\frac{3}{10} \div (-\frac{4}{5}) = \underline{\hspace{2cm}}$ student handout 8</div>								
common misconceptions	<p>Students may make computational errors related to place value and decimal placement (ex. 1) or may operate with negative values incorrectly (ex. 2).</p> <table><tr><th>example 1</th><th>example 2</th></tr><tr><td>$\begin{array}{r} 1.53 \\ \times .04 \\ \hline 6.12 \end{array}$</td><td>$-12.1 \div (-4) = -3.1$</td></tr></table>	example 1	example 2	$\begin{array}{r} 1.53 \\ \times .04 \\ \hline 6.12 \end{array}$	$-12.1 \div (-4) = -3.1$	<p>Students may confuse multiplication and algorithms, especially that division is the same as multiplying by a reciprocal (ex. 1) or may not correctly apply integer rules (ex. 2).</p> <table><tr><th>example 1</th><th>example 2</th></tr><tr><td>$-\frac{3}{5} \div \frac{1}{2} \rightarrow -\frac{3}{5} \cdot \frac{1}{2}$ $-\frac{4}{7} \cdot \frac{2}{3} \rightarrow -\frac{4}{7} \cdot \frac{3}{2}$</td><td>$-\frac{7}{8} \cdot -\frac{2}{3} = -\frac{7}{12}$</td></tr></table>	example 1	example 2	$-\frac{3}{5} \div \frac{1}{2} \rightarrow -\frac{3}{5} \cdot \frac{1}{2}$ $-\frac{4}{7} \cdot \frac{2}{3} \rightarrow -\frac{4}{7} \cdot \frac{3}{2}$	$-\frac{7}{8} \cdot -\frac{2}{3} = -\frac{7}{12}$
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multiplying and dividing rational numbers

	multiplying and dividing decimals	multiplying and dividing fractions
instructional strategies	<p>simplify it: when multiplying and dividing positive and negative rational numbers, encourage students to perform the operation “ignoring” the signs initially and then determine the sign of the product or quotient as a final step</p> <p>simplify it: when multiplying decimals, students may benefit from utilizing the distributive property and breaking the multiplication into pieces</p> $2.5 \cdot 1.4 = (2 + 0.5) \cdot 1.4 = (2 \cdot 1.4) + (0.5 \cdot 1.4)$ <p>organize it: when students are dividing decimals, rewrite the division as a fraction and then scale up by a power of 10 in order to remove the decimal and make sense of “moving the decimal over” the same number of places in the divisor and dividend</p> $48 \div 0.6 = \frac{48}{0.6} = \frac{480}{6}$	<p>picture it: use a model to show multiplication and make connections to the process of multiplying the numerators and denominators to determine the product</p> $\frac{1}{4} \cdot \frac{2}{3} = \frac{2}{12} = \frac{1}{6}$  <p>picture it: model a division problem to make connections to the fact that division is the same as multiplying by the reciprocal</p> $2 \div \frac{1}{3} = \boxed{6}$  <p>“How many groups of $\frac{1}{3}$ can I make out of 2?”</p>
extra practice and resources	<p>Multiplying and Dividing Rational Numbers Mazes*</p> <p>Consider utilizing the mazes included and differentiating based on the skill each maze covers. One or two examples from each maze could be completed as a class for extra practice before allowing students to continue independently.</p> <ul style="list-style-type: none"> • Maze #1 practices multiplying decimals and fractions • Maze #2 practices dividing decimals and fractions <p>Rational Number Operations Error Analysis***</p> <p>While the error analysis activity includes all operations with rational numbers, the last four cards (Eddie, Faye, Gary and Heidi) cover multiplying and dividing rational numbers. Consider utilizing these cards in groups for higher level thinking and discussion opportunities.</p>	

*Multiplying and Dividing Rational Numbers Mazes is included as a part of the 7th Grade All Access Membership.

**Rational Number Operations Error Analysis is included in this PDF on pages 19-27.

ADDING & SUBTRACTING INTEGERS

CUT AND PASTE

Students will be able to add and subtract integers using a number line model.



7.NS.1d Apply properties of operations as strategies to add and subtract rational numbers.



7.3A Add, subtract, multiply, and divide rational numbers fluently.

Ideas for Implementation: Math is always more fun with a hands-on activity! Students can work individually or in partners to find the matching pieces: problem, number line representation, and solution. Students will be given multiple answers, so some cards will not be used. This activity is perfect for a center, tutoring, or to practice the concept. Glue and scissors are required.

Directions: Each student will need a copy of the recording sheet (can be copied double-sided) and a copy of the answers (copy one-sided). Students will read each problem and match the problem, solution, and number line representation.

Integer Cut & Paste

Cut the cards apart. Then match each problem with its solution and number line representation. Glue the cards to the appropriate spot, but be careful because not all cards will be used.

PROBLEM	NUMBER LINE	SOLUTION
$-9 + 6$		
The water level was -4 feet before rainy season. After rainy season the water level was 4 feet. By how much did the water level change?		
A checking account is overdrawn by \$5, then a \$5 fee is charged. What is the balance on the account?		
$-8 - (-3)$		
During a football game, the team lost 6 yards and then another 3 yards. How many yards behind the line of scrimmage are they?		

PROBLEM

NUMBER LINE

SOLUTION

$$-5 + (-2)$$

$$-4 - (-4)$$

An elevator traveled up 8 floors and then down to to the second floor. How many floors did the elevator travel down?

$$5 + (-7)$$

A scuba diver is practicing in a marked pool. He begins 3 feet below the surface of the water and then dives down to the 9 foot marker. How far did he dive?

write your own

-3

4

3

6

-10

-2

-4

-5

-7

-6

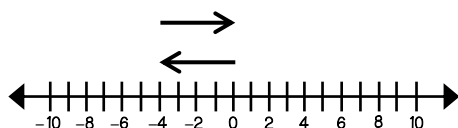
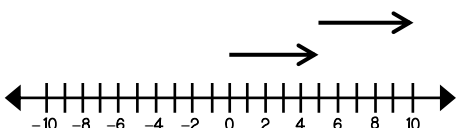
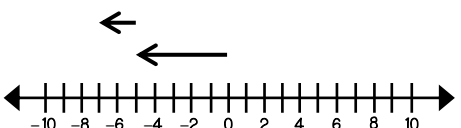
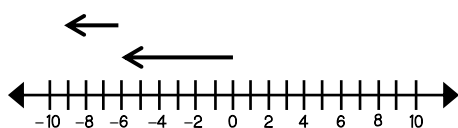
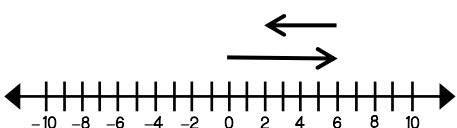
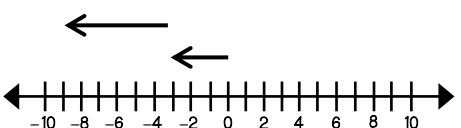
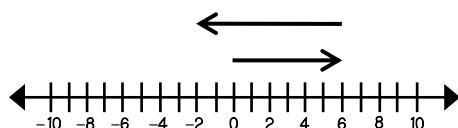
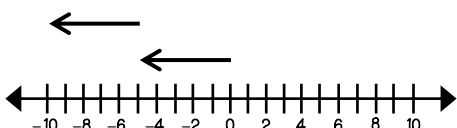
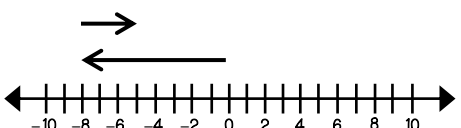
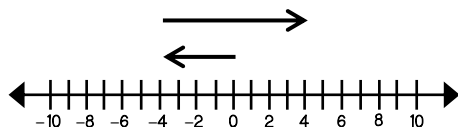
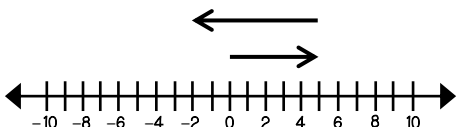
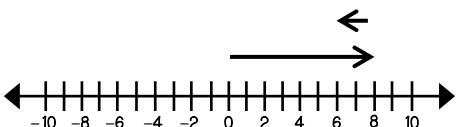
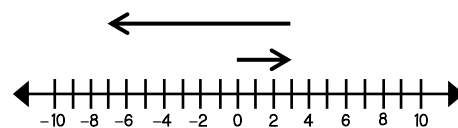
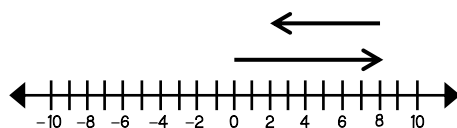
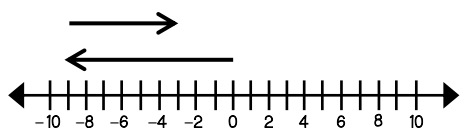
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5

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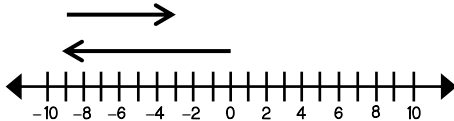
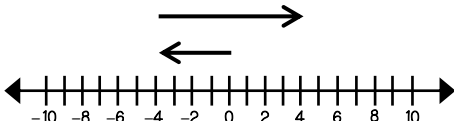
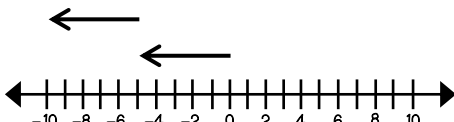
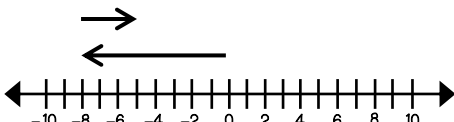
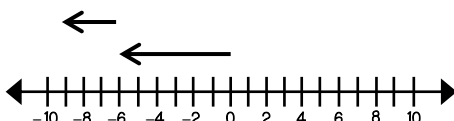
-9

8



Integer Cut & Paste

Cut the cards apart. Then match each problem with its solution and number line representation. Glue the cards to the appropriate spot, but be careful because not all cards will be used.

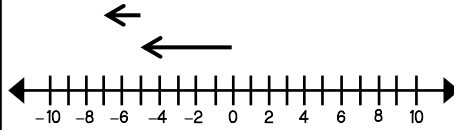
PROBLEM	NUMBER LINE	SOLUTION
$-9 + 6$		-3
The water level was -4 feet before rainy season. After rainy season the water level was 4 feet. By how much did the water level change?		8
A checking account is overdrawn by \$5, then a \$5 fee is charged. What is the balance on the account?		-10
$-8 - (-3)$		-5
During a football game, the team lost 6 yards and then another 3 yards. How many yards behind the line of scrimmage are they?		-9

PROBLEM

NUMBER LINE

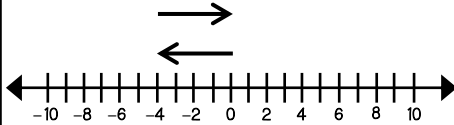
SOLUTION

$$-5 + (-2)$$



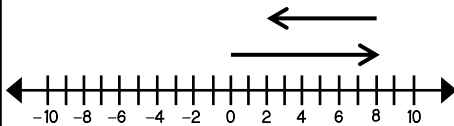
-7

$$-4 - (-4)$$



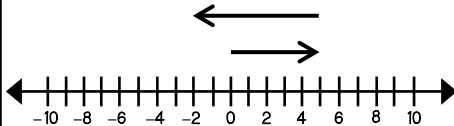
0

An elevator traveled up 8 floors and then down to the second floor. How many floors did the elevator travel down?



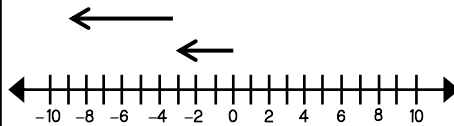
6

$$5 + (-7)$$



-2

A scuba diver is practicing in a marked pool. He begins 3 feet below the surface of the water and then dives down to the 9 foot marker. How far did he dive?



-6

write your own

RATIONAL NUMBER OPERATIONS

ERROR ANALYSIS

Students will be able to extend their understanding of operations to identify and correct errors in rational operation problems.



7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.



7.3A Add, subtract, multiply, and divide rational numbers fluently.

7.3B Apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

Directions:

1. Print each problem page on card stock and place in a page protector (longer lasting).
2. Either give one card to each group of students or print a set of cards for each group and place on a binder ring.
3. Print and copy a recording sheet for each student.
4. Students may begin at any name and should find and describe the error in the student's work. They should also include the correct solution on their recording sheet.
5. Students continue until they have analyzed all cards.

Teacher Tips:

- This activity works best in groups of 2-4 so that students can discuss with one another.
- Problems could also be posted around the room if you would like to have students moving and traveling from one card to another.

ALEXA

$$-\frac{2}{5} + (-\frac{1}{5}) = -\frac{2+1}{5+5} = -\frac{3}{10}$$

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BERNIE

$$\begin{array}{r} + 15.02 \\ - 19.38 \\ \hline -34.40 \end{array}$$

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COHEN

$$\frac{5}{9} - (-\frac{1}{4}) = \frac{5}{9} + \frac{1}{4} = \frac{6}{13}$$

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DOUG

$$-5.28 - 9.3$$



$$\begin{array}{r} + -5.28 \\ -9.3 \\ \hline -6.21 \end{array}$$

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eddie

$$-\frac{7}{8} \cdot \left(-\frac{3}{8}\right) = \frac{7(3)}{8} = \frac{21}{8} = 2\frac{5}{8}$$

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faye

$$\begin{array}{r} -2.09 \\ \times 6.2 \\ \hline 418 \\ 12540 \\ \hline -129.58 \end{array}$$

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GARY

$$-\frac{3}{4} \div \frac{1}{8} = -\frac{3}{4} \cdot \frac{1}{8} = -\frac{3}{32}$$

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Heidi

$$\begin{array}{r} -3.2 \\ -6 \overline{) -19.2} \\ \underline{-18} \downarrow \\ 12 \\ \underline{-12} \\ 0 \end{array}$$

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RATIONAL NUMBER OPERATIONS

On each card, find the statement that is incorrect. Then, correct and rewrite the statement in the space provided. Show any necessary work.

Alexa

Describe the error in Alexa's work:

What is the correct solution to Alexa's problem?

Bernie

Describe the error in Bernie's work:

What is the correct solution to Bernie's problem?

Cohen

Describe the error in Cohen's work:

What is the correct solution to Cohen's problem?

Doug

Describe the error in Doug's work:

What is the correct solution to Doug's problem?

eddie

Describe the error in Eddie's work:

What is the correct solution to Eddie's problem?

FAYE

Describe the error in Faye's work:

What is the correct solution to Faye's problem?

GARY

Describe the error in Gary's work:

What is the correct solution to Gary's problem?

Heidi

Describe the error in Heidi's work:

What is the correct solution to Heidi's problem?

RATIONAL NUMBER OPERATIONS

On each card, find the statement that is incorrect. Then, correct and rewrite the statement in the space provided. Show any necessary work.

Alexa

Describe the error in Alexa's work:

Alexa added both the numerators and the denominators in the fraction. The fractions had a common denominator, so Alexa should have only added the numerators.

What is the correct solution to Alexa's problem?

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

Bernie

Describe the error in Bernie's work:

Bernie added the two decimals, but since they had different signs, he should have found the difference and kept the sign of the number with the greatest absolute value.

What is the correct solution to Bernie's problem?

$$-4.36$$

Cohen

Describe the error in Cohen's work:

Cohen added the denominators of the fractions when he should have found a common denominator instead.

What is the correct solution to Cohen's problem?

$$\frac{29}{36}$$

Doug

Describe the error in Doug's work:

Doug did not line up the decimals in his work correctly.

What is the correct solution to Doug's problem?

$$-14.58$$

eddie

Describe the error in Eddie's work:

Eddie only multiplied the numerators when he should have multiplied the numerators and the denominators.

What is the correct solution to Eddie's problem?

$$\frac{21}{64}$$

Faye

Describe the error in Faye's work:

Faye did not place her decimal in the correct location of the product.

What is the correct solution to Faye's problem?

$$-12.958$$

gary

Describe the error in Gary's work:

Gary changed the division problem to a multiplication problem, but he forgot to change the second fraction to its reciprocal.

What is the correct solution to Gary's problem?

$$-6$$

Heidi

Describe the error in Heidi's work:

Heidi did not apply her integer rules correctly. When the signs are the same in division, the quotient should be positive.

What is the correct solution to Heidi's problem?

$$3.2$$