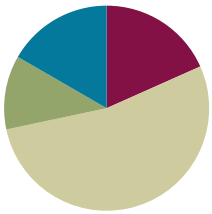
Lesson 13

Objective: Use fraction benchmark numbers to assess reasonableness of addition and subtraction equations.

Suggested Lesson Structure

Fluency Practice	(11 minutes)
Application Problem	(7 minutes)
Concept Development	(32 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



Fluency Practice (11 minutes)

- From Fractions to Decimals **4.NF.6** (5 minutes)
- Adding and Subtracting Fractions with Unlike Units **5.NF.1** (6 minutes)

From Fractions to Decimals (5 minutes)

Note: This fluency activity reviews decimals as they relate to generating equivalent benchmark fractions.

T: (Write $\frac{1}{10}$.) Say the fraction in unit form.
S: 1 tenth.
T: Say the fraction in decimal form.
S: Zero point one.
T: I'll say a fraction in unit form. You say the fraction in decimal form. Ready? 3 tenths.
S: Zero point three.
T: 7 tenths.
S: Zero point seven.
T: (Write $\frac{1}{2} = \frac{\quad}{10}$.) Say the equivalent fraction with the missing numerator.
S: 1 half = 5 tenths.
T: Say 5 tenths as a decimal.
S: Zero point five.
T: Say 1 half as a decimal.
S: Zero point five.

NOTES ON MULTIPLE MEANS OF REPRESENTATION:

If students don't remember how to convert from fractions to decimals, then consider doing a review with the whole class. Fractions can be converted to decimals easily when the denominator is tenths, hundredths, or thousandths. It's just like converting the fractions into equivalent fractions with the denominator of tenths, hundredths, or thousandths.

You can also draw out the fraction bars that clearly show equivalent fractions (i.e., $\frac{2}{5} = \frac{4}{10} = 0.4$. Both $\frac{2}{5}$ and $\frac{4}{10}$ have the same values.) The bar models serve as a great visual.

T: Say 3 and 1 half as a decimal.

S: Three point five.

Continue with the following possible sequence: $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$, $2\frac{4}{5}$, $\frac{1}{4}$, $\frac{3}{4}$, $5\frac{3}{4}$, $\frac{1}{25}$, $\frac{2}{25}$, $\frac{3}{25}$, $5\frac{3}{25}$, $\frac{1}{20}$, $\frac{11}{20}$, $3\frac{11}{20}$, $\frac{1}{50}$, $\frac{3}{50}$, and $4\frac{3}{50}$.

Adding and Subtracting Fractions with Unlike Units (6 minutes)

Materials: (S) Personal white board

Note: Students review adding unlike units and practice assessing the reasonableness of a sum in preparation for today's Concept Development.

T: (Write $\frac{1}{4}+\frac{1}{2}=\frac{2}{6}$.) True or false?

S: False.

T: On your personal white board, write the answer that makes the addition sentence true.

S: (Write $\frac{1}{4}+\frac{1}{2}=\frac{1}{4}+\frac{2}{4}=\frac{3}{4}$.)

T: (Write $\frac{1}{2}+\frac{3}{8}=\frac{7}{8}$.) True or false?

S: True.

T: Rewrite the addition sentence using like units.

S: (Write $\frac{1}{2}+\frac{3}{8}=\frac{4}{8}+\frac{3}{8}=\frac{7}{8}$.)

T: (Write $\frac{2}{3}-\frac{2}{9}=\frac{4}{9}$.) True or false?

S: True.

T: Rewrite the subtraction sentence using like units.

S: (Write $\frac{2}{3}-\frac{2}{9}=\frac{6}{9}-\frac{2}{9}=\frac{4}{9}$.)

T: (Write $\frac{5}{6}-\frac{2}{3}=\frac{3}{3}$.) True or false?

S: False.

T: Write the answer that will make the subtraction sentence true.

S: (Write $\frac{5}{6}-\frac{2}{3}=\frac{5}{6}-\frac{4}{6}=\frac{1}{6}$.)

NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

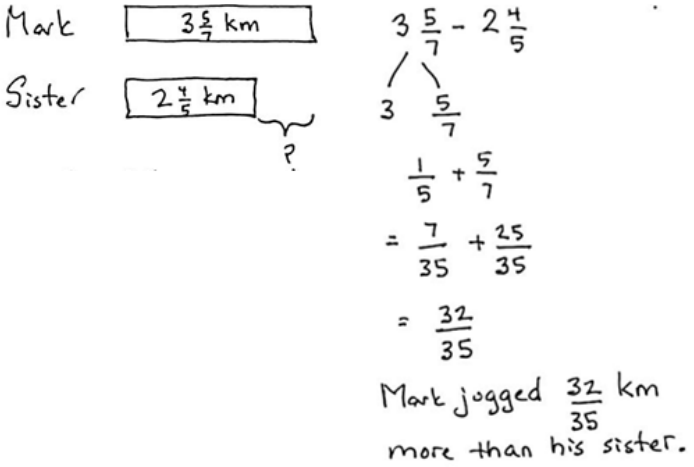
Provide "thinking time" for students to process the problem before answering true or false. If necessary, you might also give another few seconds for students to discuss the problem with their partners. Perhaps have them explain to their partners why they think a problem is true or false.

Application Problem (7 minutes)

Mark jogged $3\frac{5}{7}$ km. His sister jogged $2\frac{4}{5}$ km. How much farther did Mark jog than his sister?

Remind students to approach the problem with the RDW strategy. This is a very brief Application Problem. As you circulate while students work, quickly assess which work you will select for a short two- or three-minute Debrief.

Note: Students solve this Application Problem involving addition and subtraction of fractions greater than 2 and having unlike denominators, using visual models.



NOTES ON MULTIPLE MEANS OF REPRESENTATION:

If students are not ready to estimate the sum or difference of a fraction sentence, consider doing a mini pre-lesson or a fluency activity on estimating a single fraction before moving on to this lesson.

For example:

- Is $\frac{3}{4}$ closer to 0, $\frac{1}{2}$, or 1 whole?
- Is $\frac{2}{7}$ closer to 0, $\frac{1}{2}$, or 1 whole?
- Is $\frac{9}{10}$ closer to 0, $\frac{1}{2}$, or 1 whole?
- Is $1\frac{6}{7}$ closer to 1, $1\frac{1}{2}$, or 2?
- Is $3\frac{4}{7}$ closer to 3, $3\frac{1}{2}$, or 4?

If necessary, write each fraction on a sentence strip (using it as a number line) and label it. This way, students can easily see whether the fraction is closer to 0, $\frac{1}{2}$, or 1 whole.

Concept Development (32 minutes)

Materials: (S) Personal white board

Problem 1: $\frac{1}{2}+\frac{3}{4}$

T: For the past two weeks we have been learning different strategies to add and subtract unlike fractions. Today the focus is on mental math—using reasoning without actually solving using paper and pencil.

T: (Write $\frac{1}{2}+\frac{3}{4}$.) Think about this expression without solving it using paper and pencil. Share your analysis with a partner.

MP.3

S: $\frac{1}{2}$ could be 50% of something or 50 cents of a dollar. → I know that $\frac{1}{2}$ is the same as $\frac{5}{10}$ or 0.5 as a decimal. → I know $\frac{3}{4}$ is more than half because half of a whole is $\frac{2}{4}$. → $\frac{3}{4}$ is the same as 75%; 3 quarters equal 75 cents.

T: What do you know about the total value of this expression without solving?

MP.3

S: Since $\frac{3}{4}$ is more than half and we need to add $\frac{1}{2}$ more, the answer will be greater than 1. → $\frac{1}{2}+\frac{3}{4}>1$. → It's like adding 50 cents and 75 cents. The answer will be more than 1 dollar. → $\frac{1}{2}+\frac{2}{4}=1$, but there's still a $\frac{1}{4}$ to add. → The total answer is $1\frac{1}{4}$.

Problem 2: $1\frac{2}{5}-\frac{2}{3}$

T: (Write $1\frac{2}{5}-\frac{2}{3}$.) Without calculating, what do you know about value of this expression? Talk to your partner.

S: I see that it's a subtraction problem. $\frac{2}{5}$ is less than $\frac{1}{2}$ and $\frac{2}{3}$ is more than $\frac{1}{2}$. → I know that $\frac{2}{3}$ can't be subtracted from $\frac{2}{5}$ because $\frac{2}{3}$ is larger, so we'll need to subtract from 1 whole. → I can convert $1\frac{2}{5}$ to $\frac{7}{5}$ in my head.

T: Do you think the answer is more than 1 or less than 1? Turn and share.

S: Less than 1 because $\frac{1}{5}$ is less than $\frac{1}{3}$ so $\frac{2}{5}$ is less than $\frac{2}{3}$. → The answer is less than 1 because I can create equivalent fractions in my head and solve.

Problem 3: $\frac{4}{10}+\frac{1}{3}$

T: (Write $\frac{4}{10}+\frac{1}{3}$.) Use reasoning skills to decide if the sum is more than or less than 1. Work with your partner.

NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

When students are solving problems with partners and continue to struggle even with guided questions, consider asking them to use personal white boards to draw number lines. They can estimate one fraction at a time, then estimate the final answer.

The following is an example:

$\frac{4}{10}+\frac{1}{3}$

Draw a number line for $\frac{4}{10}$. $\frac{4}{10}$ is less than 1 half.

Draw a number line for $\frac{1}{3}$. $\frac{1}{3}$ is less than 1 half.

Less than $\frac{1}{2}$ + less than $\frac{1}{2}<1$.

$\frac{4}{10}+\frac{1}{3}<1$.

NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

Because both addends are clearly less than half, this is an easy question. For students working above grade level, let them determine if $\frac{3}{10}+\frac{2}{3}$ is less than, equal to, or greater than 1. Encourage them *not* to solve the problem until they have determined their reasoning.

Allow a minute for students to analyze and discuss the problem. Circulate and listen. If students seem to be lost or off track with their thinking, then perhaps use some of the following questions:

- Is $\frac{4}{10}$ more than 1 half or less than 1 half?
- Is $\frac{4}{10}$ closer to 0 or 1 whole?
- What's half of 10 tenths?
- What's $\frac{4}{10}$ as a decimal?
- How much money is 4 tenths?
- Is $\frac{1}{3}$ closer to 0 or 1 whole?
- Is $\frac{1}{3}$ more than 1 half or less than 1 half?

NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

Have students working below grade level try $\frac{4}{10}+\frac{1}{9}$. Have students working above grade level try $\frac{3}{10}+\frac{3}{9}$.

Problem 4: $\frac{4}{10}+\frac{2}{9}$

MP.3

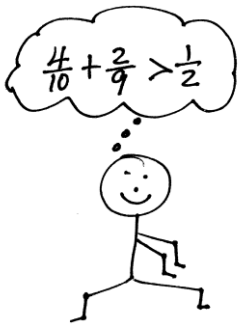
T: (Write $\frac{4}{10}+\frac{2}{9}$.) Share your analysis of this expression with your partner.

S: I see that it's an addition problem. $\frac{4}{10}$ is less than $\frac{1}{2}$ because $\frac{4}{10}=0.4$. → I agree. I also noticed that $\frac{2}{9}$ is less than $\frac{1}{2}$ because $\frac{1}{2}$ of 9 is $4\frac{1}{2}$, and 2 is less than $4\frac{1}{2}$. → Both fractions are closer to 0 than 1.

T: Is the answer less than or greater than $\frac{1}{2}$?

NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

Have students working below grade level try $1\frac{4}{7}-1$. Have students working above grade level try $1\frac{3}{7}-\frac{9}{10}$.



S: $\frac{4}{10}$ is really close to a half. It only needs $\frac{1}{10}$ to be one half. → I'm asking myself, *is* $\frac{2}{9}$ *greater than* $\frac{1}{10}$? If it is, the answer will be greater than $\frac{1}{2}$. → $\frac{2}{9}$ has to be greater than $\frac{1}{10}$ because it's close to $\frac{1}{4}$ or $\frac{2}{8}$.

T: Verify your answer.

Problem 5: $1\frac{4}{7} - \frac{9}{10}$

T: (Write $1\frac{4}{7} - \frac{9}{10}$.) Think about this expression with your partner.

S: $\frac{4}{7}$ is more than $\frac{1}{2}$, and $\frac{9}{10}$ is $\frac{1}{10}$ away from 1 whole. → I know that $\frac{9}{10}$ can't be subtracted from $\frac{4}{7}$, because $\frac{9}{10}$ is larger, so we'll need to subtract from 1 whole. → I would use $1 - \frac{9}{10} = \frac{1}{10}$. → I agree. Now, we have a leftover of $\frac{1}{10} + \frac{4}{7}$.

T: Is the value of this expression greater than or less than $\frac{1}{2}$?

S: I think the value is more than $\frac{1}{2}$ because I know $\frac{4}{7}$ alone is already more than $\frac{1}{2}$. → 1 less than $1\frac{4}{7}$ is going to be more than half. $\frac{9}{10}$ is less than 1, so $\frac{9}{10}$ less than $1\frac{4}{7}$ is going to be greater than $\frac{1}{2}$.

Problem 6: $\frac{4}{5} - \frac{1}{8}$

T: (Write $\frac{4}{5} - \frac{1}{8}$.) Discuss this problem with your partner. Is the value of the expression more than or less than $\frac{1}{2}$?

Use the following questions for support:

- Is $\frac{4}{5}$ more than 1 half or less than 1 half?
- Is $\frac{4}{5}$ closer to 0 or 1 whole?
- What's half of 5 fifths?
- Can you convert 4 fifths to tenths or a decimal in your head? What is it?
- Is $\frac{1}{8}$ more than 1 half or less than 1 half?
- Is $\frac{1}{8}$ closer to 0 or 1 whole?

Problem 7: $2\frac{1}{3} + 3\frac{1}{5}$ ____ $6 + \frac{7}{8}$

T: (Write $2\frac{1}{3} + 3\frac{1}{5}$ ____ $6 + \frac{7}{8}$.) Which expression is greater? Share your thinking with your neighbor.

S: I first need to estimate the total for both expressions, and then I can compare them. → I'll first add up the whole numbers on the left, and then compare them because they're the larger place values. If the whole numbers are equal, then I'll estimate the fractions and compare them.

Allow two minutes for students to analyze and discuss the problem. Circulate and listen. If students seem to be lost or off-track with their thinking, use the following questions to

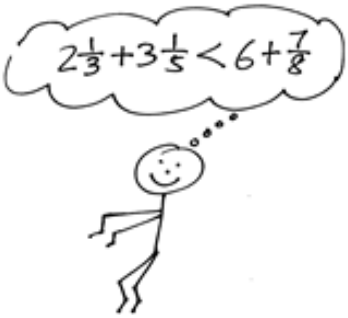
NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:

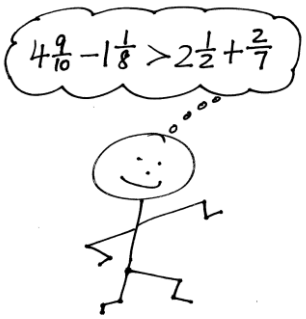
English language learners and students with disabilities might require more examples and more time to process. If necessary, when the class is working on classwork independently, pull out a small group to do more examples.

Allow students to use the actual fraction pieces to estimate, if available. If not, allow them to draw the fractions on personal white boards.

guide discussion and thinking:

- What do you know about $2\frac{1}{3}$ and $3\frac{1}{5}$?
- What's the total of the whole numbers on the left?
- How do you compare the whole numbers?
- What do you know about $\frac{1}{3}$ and $\frac{1}{5}$?
- Are $\frac{1}{3}$ and $\frac{1}{5}$ closer to 0 or 1 whole? What is your estimation of $\frac{1}{3}+\frac{1}{5}$? More than 1 or less than 1?
- Is $\frac{7}{8}$ closer to 0 or 1 whole?
- What's $6+\frac{7}{8}$ equal to?



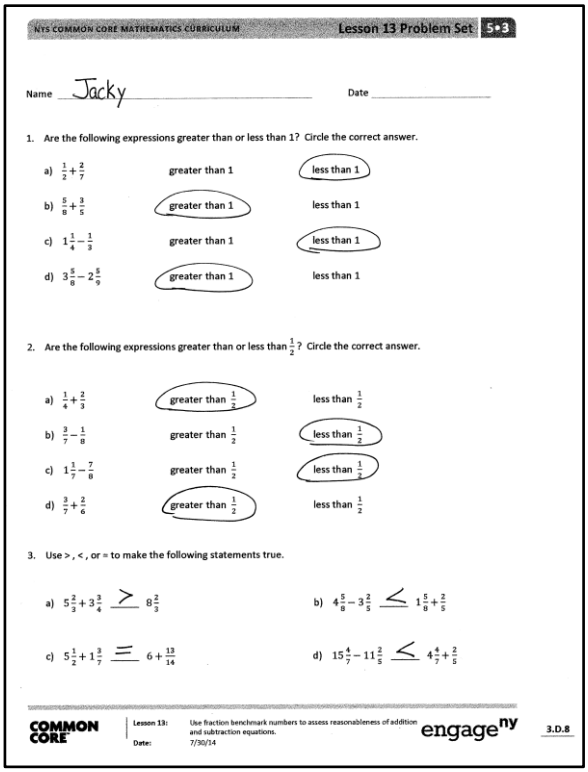


Problem 8: $4\frac{9}{10}-1\frac{1}{8}$ _____ $2\frac{1}{2}+\frac{2}{7}$

Have students work with partners or individually for the last problem, and then review as a class.

Problem Set (10 minutes)

Students should do their personal best to complete the Problem Set within the allotted 10 minutes. For some classes, it may be appropriate to modify the assignment by specifying which problems they work on first. Some problems do not specify a method for solving. Students should solve these problems using the RDW approach used for Application Problems.



NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 13 Problem Set 5•3

Name Jacky Date

1. Are the following expressions greater than or less than 1? Circle the correct answer.

a) $\frac{1}{2}+\frac{2}{7}$	greater than 1	less than 1
b) $\frac{6}{8}+\frac{3}{5}$	greater than 1	less than 1
c) $1\frac{1}{4}-\frac{1}{3}$	greater than 1	less than 1
d) $3\frac{5}{8}-2\frac{8}{9}$	greater than 1	less than 1

2. Are the following expressions greater than or less than $\frac{1}{2}$? Circle the correct answer.

a) $\frac{1}{4}+\frac{2}{3}$	greater than $\frac{1}{2}$	less than $\frac{1}{2}$
b) $\frac{3}{7}-\frac{1}{8}$	greater than $\frac{1}{2}$	less than $\frac{1}{2}$
c) $1\frac{1}{7}-\frac{7}{8}$	greater than $\frac{1}{2}$	less than $\frac{1}{2}$
d) $\frac{3}{7}+\frac{2}{6}$	greater than $\frac{1}{2}$	less than $\frac{1}{2}$

3. Use >, <, or = to make the following statements true.

a) $5\frac{2}{3}+3\frac{3}{4} > 8\frac{2}{3}$ b) $4\frac{5}{8}-3\frac{2}{5} < 1\frac{5}{8}+\frac{2}{5}$

c) $5\frac{1}{2}+1\frac{3}{7} = 6+\frac{13}{14}$ d) $15\frac{4}{7}-11\frac{2}{5} < 4\frac{4}{7}+\frac{2}{5}$

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Student Debrief (10 minutes)

Lesson Objective: Use fraction benchmark numbers to assess the reasonableness of addition and subtraction equations.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson.

T: Bring your Problem Set to the Debrief. Share, check, and/or explain your answers to your partner.

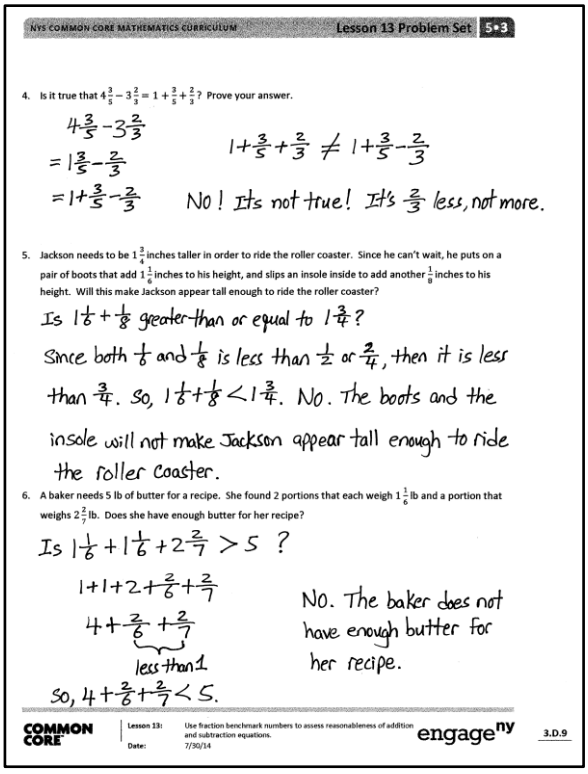
S: (Work together for 2 minutes.)

T: (Circulate and listen to explanations. Analyze the work you see to determine which student solutions you will display to support your lesson objective.)

T: (Review answers or select individual students to explain the thinking process that led them to a correct answer.)

T: What did you learn today? Turn and share with your partner.

S: I can use my reasoning skills to estimate fraction answers. → When I estimate fraction answers, I should be thinking about if that fraction is closer to 0, $\frac{1}{2}$, or 1 whole. That'll make it easier for me to do mental math. → I learned to estimate fractions and answers mentally. It reminds me of rounding. → If I'm adding 2 fractions that are more than $\frac{1}{2}$, then the answer will be more than 1 whole.



NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 13 Problem Set 5•3

4. Is it true that $4\frac{3}{5}-3\frac{2}{3}=1+\frac{3}{5}+\frac{2}{3}$? Prove your answer.

$4\frac{3}{5}-3\frac{2}{3}$
$=1\frac{3}{5}-\frac{2}{3}$
$=1+\frac{3}{5}-\frac{2}{3}$

$1+\frac{3}{5}+\frac{2}{3} \neq 1+\frac{3}{5}-\frac{2}{3}$

No! It's not true! It's $\frac{2}{3}$ less, not more.

5. Jackson needs to be $1\frac{3}{4}$ inches taller in order to ride the roller coaster. Since he can't wait, he puts on a pair of boots that add $1\frac{1}{6}$ inches to his height, and slips an insole inside to add another $\frac{1}{8}$ inches to his height. Will this make Jackson appear tall enough to ride the roller coaster?

Is $1\frac{1}{6}+\frac{1}{8}$ greater than or equal to $1\frac{3}{4}$?

Since both $\frac{1}{6}$ and $\frac{1}{8}$ is less than $\frac{1}{2}$ or $\frac{2}{4}$, then it is less than $\frac{3}{4}$. So, $1\frac{1}{6}+\frac{1}{8}<1\frac{3}{4}$. No. The boots and the insole will not make Jackson appear tall enough to ride the roller coaster.

6. A baker needs 5 lb of butter for a recipe. She found 2 portions that each weigh $1\frac{1}{6}$ lb and a portion that weighs $2\frac{2}{7}$ lb. Does she have enough butter for her recipe?

Is $1\frac{1}{6}+1\frac{1}{6}+2\frac{2}{7}>5$?

$1+1+2+\frac{2}{6}+\frac{2}{7}$
$4+\frac{2}{6}+\frac{2}{7}$
less than 1
So, $4+\frac{2}{6}+\frac{2}{7}<5$.

No. The baker does not have enough butter for her recipe.

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Note: (Optional as time allows.) The following is a suggested list of questions to invite reflection and active processing of the total lesson experience. Use those that resonate with you as you consider what best supports your students' ability to articulate the focus of the lesson.)

- Why do mathematicians agree it is wise to estimate *before* calculating?
- Think about what happens to your reasoning when you are calculating.
- Why do mathematicians agree it is wise to estimate *after* calculating?

Exit Ticket (3 minutes)

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help you assess the students' understanding of the concepts that were presented in the lesson today and plan more effectively for future lessons. You may read the questions aloud to the students.

Name _____ Date _____

1. Are the following expressions greater than or less than 1? Circle the correct answer.

a.	$\frac{1}{2}+\frac{2}{7}$	greater than 1	less than 1
b.	$\frac{5}{8}+\frac{3}{5}$	greater than 1	less than 1
c.	$1\frac{1}{4}-\frac{1}{3}$	greater than 1	less than 1
d.	$3\frac{5}{8}-2\frac{5}{9}$	greater than 1	less than 1

2. Are the following expressions greater than or less than $\frac{1}{2}$? Circle the correct answer.

a.	$\frac{1}{4}+\frac{2}{3}$	greater than $\frac{1}{2}$	less than $\frac{1}{2}$
b.	$\frac{3}{7}-\frac{1}{8}$	greater than $\frac{1}{2}$	less than $\frac{1}{2}$
c.	$1\frac{1}{7}-\frac{7}{8}$	greater than $\frac{1}{2}$	less than $\frac{1}{2}$
d.	$\frac{3}{7}+\frac{2}{6}$	greater than $\frac{1}{2}$	less than $\frac{1}{2}$

3. Use > , < , or = to make the following statements true.

a. $5\frac{2}{3}+3\frac{3}{4}$ _____ $8\frac{2}{3}$

b. $4\frac{5}{8}-3\frac{2}{5}$ _____ $1\frac{5}{8}+\frac{2}{5}$

c. $5\frac{1}{2}+1\frac{3}{7}$ _____ $6+\frac{13}{14}$

d. $15\frac{4}{7}-11\frac{2}{5}$ _____ $4\frac{4}{7}+\frac{2}{5}$

4. Is it true that $4\frac{3}{5} - 3\frac{2}{3} = 1 + \frac{3}{5} + \frac{2}{3}$? Prove your answer.

5. Jackson needs to be $1\frac{3}{4}$ inches taller in order to ride the roller coaster. Since he can't wait, he puts on a pair of boots that add $1\frac{1}{6}$ inches to his height and slips an insole inside to add another $\frac{1}{8}$ inch to his height. Will this make Jackson appear tall enough to ride the roller coaster?

6. A baker needs 5 lb of butter for a recipe. She found 2 portions that each weigh $1\frac{1}{6}$ lb and a portion that weighs $2\frac{2}{7}$ lb. Does she have enough butter for her recipe?

Name _____ Date _____

1. Circle the correct answer.

a.	$\frac{1}{2}+\frac{5}{12}$	greater than 1	less than 1
b.	$2\frac{7}{8}-1\frac{7}{9}$	greater than 1	less than 1
c.	$1\frac{1}{12}-\frac{7}{10}$	greater than $\frac{1}{2}$	less than $\frac{1}{2}$
d.	$\frac{3}{7}+\frac{1}{8}$	greater than $\frac{1}{2}$	less than $\frac{1}{2}$

2. Use > , < , or = to make the following statement true.

$4\frac{4}{5}+3\frac{2}{3}$ _____ $8\frac{1}{2}$

Name _____ Date _____

1. Are the following expressions greater than or less than 1? Circle the correct answer.

a. $\frac{1}{2}+\frac{4}{9}$ greater than 1 less than 1

b. $\frac{5}{8}+\frac{3}{5}$ greater than 1 less than 1

c. $1\frac{1}{5}-\frac{1}{3}$ greater than 1 less than 1

d. $4\frac{3}{5}-3\frac{3}{4}$ greater than 1 less than 1

2. Are the following expressions greater than or less than $\frac{1}{2}$? Circle the correct answer.

a. $\frac{1}{5}+\frac{1}{4}$ greater than $\frac{1}{2}$ less than $\frac{1}{2}$

b. $\frac{6}{7}-\frac{1}{6}$ greater than $\frac{1}{2}$ less than $\frac{1}{2}$

c. $1\frac{1}{7}-\frac{5}{6}$ greater than $\frac{1}{2}$ less than $\frac{1}{2}$

d. $\frac{4}{7}+\frac{1}{8}$ greater than $\frac{1}{2}$ less than $\frac{1}{2}$

3. Use > , < , or = to make the following statements true.

a. $5\frac{4}{5}+2\frac{2}{3}$ _____ $8\frac{3}{4}$

b. $3\frac{4}{7}-2\frac{3}{5}$ _____ $1\frac{4}{7}+\frac{3}{5}$

c. $4\frac{1}{2}+1\frac{4}{9}$ _____ $5+\frac{13}{18}$

d. $10\frac{3}{8}-7\frac{3}{5}$ _____ $3\frac{3}{8}+\frac{3}{5}$

4. Is it true that $5\frac{2}{3} - 3\frac{3}{4} = 1 + \frac{2}{3} + \frac{3}{4}$? Prove your answer.

5. A tree limb hangs $5\frac{1}{4}$ feet from a telephone wire. The city trims back the branch before it grows within $2\frac{1}{2}$ feet of the wire. Will the city allow the tree to grow $2\frac{3}{4}$ more feet?

6. Mr. Kreider wants to paint two doors and several shutters. It takes $2\frac{1}{8}$ gallons of paint to coat each door and $1\frac{3}{5}$ gallons of paint to coat all of his shutters. If Mr. Kreider buys three 2-gallon cans of paint, does he have enough to complete the job?