Title: Two Fruit Bars

Achievement Level: Novice 1

Criteria and Performance Level	Rationales
Problem Solving *Novice*	The student's strategy of diagramming two unfinished rectangles of different sizes and separating one rectangle into four parts that are not equal and one rectangle into three parts that are not equal does not work to solve the task. The student's answer, "no," is not correct.
Reasoning & Proof *Novice*	The student does not show correct reasoning of the underlying concepts of the task. The student does not partition rectangles into equal fourths and thirds to compare the size of one-fourth to one-third. It appears that the student is using the number of pieces each boy has to eat and not the size of the one piece each boy is allowed to eat.
Communication *Apprentice*	The student correctly uses the mathematical term *diagram*. The student is not given credit for the terms *bigger*, *smaller* because these terms are used incorrectly. Fourths are smaller than thirds so the student's statement is backwards. The student could also be using the terms as number thinking and not to describe fractional parts.
Connections *Novice*	The student does not make a mathematically relevant observation about their solution.

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Representation *Apprentice*	The student attempts to make a diagram, but it is not accurate. It appears that the student makes four unequal parts and then three unequal parts and one is not sure if the student has enclosed each rectangle. If the student intended to end the rectangles after the four parts and the three parts, then the remaining two lines in each should be erased.

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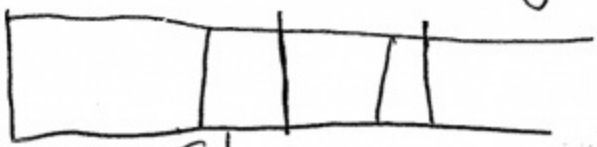
Achievement Level: Novice 1

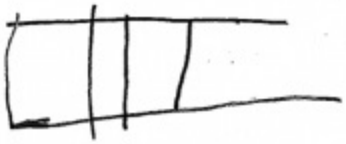
P/S	R/P	Com	Con	Rep	A/Level
N	N	A	N	A	N

Find out if he is right.
Make a diagram.



Shown

NO



4 peices is bigger
3 peices is smaller

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Title: Two Fruit Bars

Achievement Level: Apprentice 1

Criteria and Performance Level	Rationales
Problem Solving *Apprentice*	The student's strategy of diagramming two rectangles of equal sizes works for solving part of the task. The student correctly partitions the first rectangle into fourths, but the second rectangle does not demonstrate thirds. The student's answer, "no," is not correct.
Reasoning & Proof *Apprentice*	The student shows correct reasoning of some of the underlying concepts of the task. The student demonstrates understanding the properties of a rectangle and equal size. The student partitions the first rectangle into equal fourths but the second rectangle is not correctly partitioned into equal thirds. It appears that the student is matching the first and second fourths to the first and second thirds and then using the rest of the space in the second rectangle for the third third. The student then compares "1" in both rectangles to determine that they are of equal size. Shawn is not correct.
Communication *Apprentice*	The student correctly uses the mathematical term *rectangle* from the problem.
Connections *Novice*	The student does not make a mathematically relevant observation about their solution.

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Representation *Apprentice*	The student's use of making a diagram is appropriate to the task but not accurate. The first rectangle is accurately partitioned into fourths, but the rectangle is not labeled to indicate that it represents Shawn's fruit bar. The second rectangle for "Mike," is not partitioned into three equal parts.

Note:

The overall achievement level for this piece of student work falls under Exemplars exception to the rule category. If a student has all Apprentice scores or above, but a Novice in "Connections," the student may still receive an achievement level score of Apprentice. To learn more about Exemplars scoring, please refer to the section of your dashboard called "Tools for Success" and click on the link for “Using the Assessment Rubric.”

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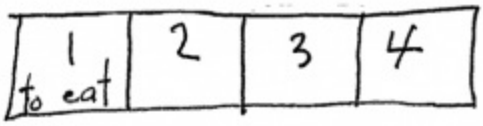
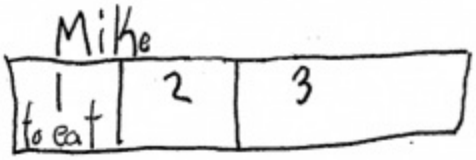
Achievement Level: Apprentice 1

P/S	R/P	Com	Con	Rep	A/Level
A	A	A	N	A	A

Did he eat the littlest piece of fruit bar? I will make the fruit bars on my paper.





piece 1 is like piece 1. 2 is 2. 3 is 3. 4 is alone. The bars have to be rectangles that match.

Answer
no

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Title: Two Fruit Bars

Achievement Level: Apprentice 2

Criteria and Performance Level	Rationales
Problem Solving *Practitioner*	The student's strategy of diagramming a rectangle in thirds, a rectangle of equal size in fourths, and comparing a one-fourth fractional part to a one-third fractional part, works to solve the task. The student's answer, "yes," is correct.
Reasoning & Proof *Practitioner*	The student shows correct reasoning of the underlying concepts of the task. The student demonstrates understanding of the properties of a rectangle, partitioning a whole into fourths and thirds, and comparing one-fourth to one-third.
Communication *Practitioner*	The student correctly uses the mathematical terms *thirds*, *fourths*, *rectangle* from the task. The student also correctly uses the terms *diagram*, *less than*.
Connections *Novice*	The student does not make a mathematically relevant observation about their solution. The student's statement, "Mike has less left so Shawn ate less than Mike," is the student's reasoning used to solve the task.
Representation *Practitioner*	The student's use of a diagram is appropriate to the task and accurate. Both rectangles are the same size, correctly partitioned and labeled. The fractional parts to compare are correctly shaded.

Note:

The overall achievement level for this piece of student work falls under Exemplars exception to the rule category. If a student has all Apprentice scores or above, but a Novice in "Connections," the student may still receive an achievement level score of

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Apprentice. To learn more about Exemplars scoring, please refer to the section of your dashboard called "Tools for Success" and click on the link for “Using the Assessment Rubric.”

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Achievement Level: Apprentice 2

P/S	R/P	Com	Con	Rep	A/Level
P	P	P	N	P	A

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Title: Two Fruit Bars

Achievement Level: Practitioner 1

Criteria and Performance Level	Rationales
Problem Solving *Practitioner*	The student's strategy of diagramming two rectangles of equal sizes works for solving the task. The student correctly partitions the first rectangle into fourths, the second rectangle into thirds, and compares one-fourth to one-third. The student's answer, "It is not the same amount. yes," is correct.
Reasoning & Proof *Practitioner*	The student shows correct reasoning of the underlying concepts of the task. The student demonstrates correct understanding of the properties of a rectangle, partitioning a whole into fourths and thirds, and comparing one-fourth to one-third.
Communication *Practitioner*	The student correctly uses the mathematical terms *smaller*, *fourths*, and *thirds* from the task. The student also correctly uses the terms *diagram*, *key*, *one fourth*, *one third*, *amount*, *4 fourths*, *3 fourths*, *3 thirds*, *2 thirds*, *whole*.
Connections *Practitioner*	The student makes mathematically relevant observations about their solution by stating, "I see 4 fourths is 1 whole—3 fourths left," and, "I see 3 thirds is 1 whole—2 thirds left."
Representation *Practitioner*	The student's use of a diagram is appropriate to the task and accurate. The first rectangle is accurately partitioned into fourths and is correctly labeled "Shawn." The second rectangle is accurately partitioned into thirds and correctly labeled "Mike." The pieces to compare are correctly shaded and labeled "eats one fourth," and, "eats one third." A key is provided to define the fruit bars.

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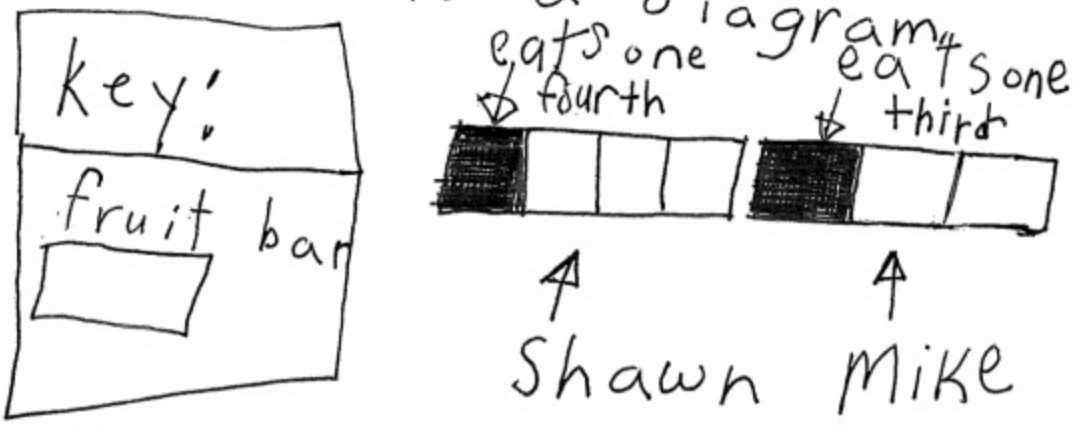
Achievement Level: Practitioner 1

P/S	R/P	Com	Con	Rep	A/Level
P	P	P	P	P	P

I need to find if Shawn eats a smaller piece.
I will make a diagram.



I did a diagram.
answer: It is not the same amount.
yes.

I see 4 fourths is 1 whole - 3 fourths left.
I see 3 thirds is 1 whole - 2 thirds left.

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Title: Two Fruit Bars

Achievement Level: Practitioner 2

Criteria and Performance Level	Rationales
Problem Solving *Practitioner*	The student's strategy of diagramming two rectangles of equal sizes works for solving the task. The student correctly partitions the first rectangle into fourths, the second rectangle into thirds, and compares one-fourth to one-third. The student's answer, "Yes, They did not eat the same amount, Mike eats the most," is correct.
Reasoning & Proof *Practitioner*	The student shows correct reasoning of the underlying concepts of the task. The student demonstrates correct reasoning of properties of a rectangle, thirds and fourths of a whole, and comparing one-third to one-fourth.
Communication *Practitioner*	The student correctly uses the mathematical terms *diagram*, *key*, *amount*, *most*, *more*.
Connections *Practitioner*	The student makes mathematically relevant observations about their solution by stating, "Mike has 2 to eat" and, "Shawn has 3 to eat and it is more fruit bar left for him."
Representation *Practitioner*	The student's use of a diagram is appropriate to the task and accurate. The first rectangle is accurately partitioned into thirds and is correctly labeled "bigger" and "Mike." The second rectangle is accurately partitioned into fourths and correctly labeled "smaller" and "Shawn." The parts to compare are correctly shaded. A key is provided to define a fruit bar.

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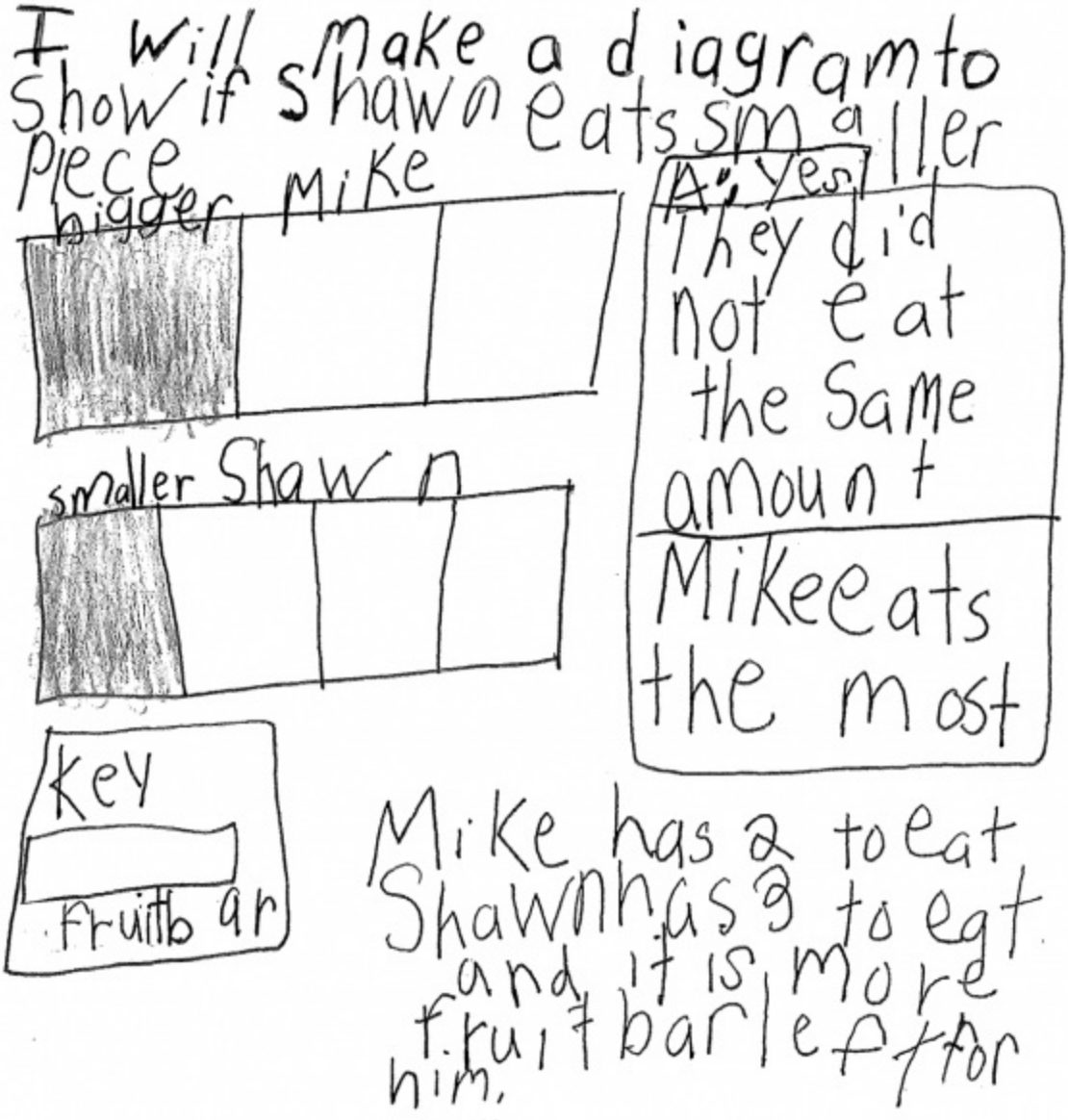
Achievement Level: Practitioner 2

P/S	R/P	Com	Con	Rep	A/Level
P	P	P	P	P	P



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Title: Two Fruit Bars

Achievement Level: Practitioner 3

Criteria and Performance Level	Rationales
Problem Solving *Practitioner*	The student's strategy of diagramming two rectangles of equal sizes works for solving the task. The student correctly partitions the first rectangle into fourths, the second rectangle into thirds, and compares one-fourth to one-third. The student's answer, "Yes, one fourth is smaller, one third is Bigger," is correct.
Reasoning & Proof *Practitioner*	The student shows correct reasoning of the underlying concepts of the task. The student demonstrates correct reasoning of properties of a rectangle, thirds and fourths of a whole, and comparing one-third to one-fourth.
Communication *Practitioner*	The student correctly uses the mathematical term *smaller* from the task. The student also correctly uses the terms *diagram*, *key*, *one fourth*, *one third*, *bigger*, "one hafe" *(one half)*, *amount*.
Connections *Practitioner*	The student makes mathematically relevant observations about their solution by stating, "one hafe for Both is a same amount and fair share." The student provides a diagram to support their thinking.

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Representation *Practitioner*	The student's use of a diagram is appropriate to the problem and accurate. The first rectangle is accurately partitioned into fourths and is correctly labeled "Shawn." The second rectangle is accurately partitioned into thirds and correctly labeled "Mike." The pieces to compare are correctly shaded. A key is provided to define a fruit bar and parts eaten. The student provides a second diagram to support what part of a fruit bar each boy would eat to have an equal share/fair share. The diagram is correctly labeled "Mike" and, "Shawn."

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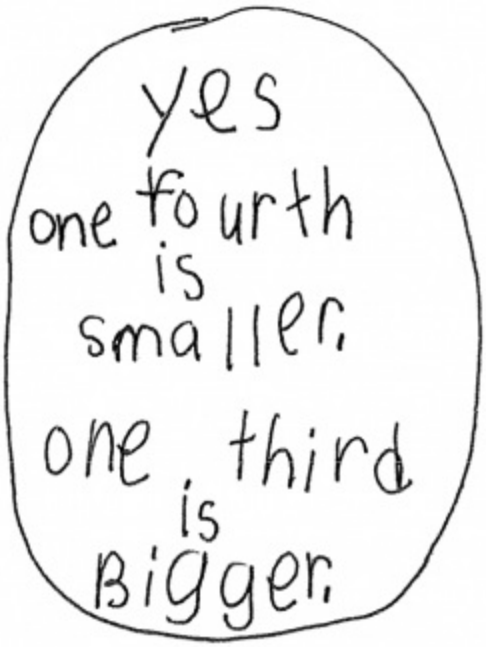
Achievement Level: Practitioner 3

P/S	R/P	Com	Con	Rep	A/Level
P	P	P	P	P	P

I have to find did Shawn eat the smaller part. I will do a diagram.



onehafe for Both is a same amount and fair share.

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Title: Two Fruit Bars

Achievement Level: Expert 1

Criteria and Performance Level	Rationales
Problem Solving *Expert*	The student's strategy of diagramming two rectangles of equal sizes works for solving the task. The student correctly partitions the first rectangle into fourths, the second rectangle into thirds, and compares one-fourth to one-third. The student's answer, "Yes," is correct. The student diagrams other ways to show fourths and thirds as well as addressing another shape, the circle. The student verifies that their answer is correct by using a number line and stating, "I am correct."
Reasoning & Proof *Expert*	The student shows correct reasoning of the underlying concepts of the task. The student demonstrates correct reasoning of properties of a rectangle, thirds and fourths of a whole, and comparing one-third to one-fourth. The student reasons that the answer will be the same using other ways to portion the rectangles into fourths and thirds as well as using the shape of a circle. The student uses fraction notation and a number line to verify that their answer is correct, "1/4 < 1/3, 1/3 > 1/4."
Communication *Expert*	The student correctly uses the mathematical terms "rectangels" *(rectangles)*, *size*, *fourths*, *thirds* from the problem. The student also correctly uses the terms *smallest*, *diagram*, *key*, *equal parts*, *whole*, *circle*, *number lines*. The student correctly uses the mathematical notation *3/4*, *1/4*, *1/3*, *2/3*, *1/4*, *2/4*, *3/4*, *4/4*, *0/3*, *3/3*, <, and >. Note: The Common Core State Standards (CCSS) do not expect second grade students to use fractional notation. Fractional notation is introduced in grade three. Students are only required by CCSS to use the terms *halves*, *thirds*, *fourths*, *whole*, etc.

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Connections *Expert*	The student makes the mathematically relevant Practitioner level observations, "3/4 left," "It is not equal in pieces. Just equal in size bars," "2/3 left," The student uses three different orientations of fourths and thirds and notes that 1/4 is smaller in each diagram. (The use of fraction notation in these connections would earn the assessed score of Expert for Communication.) The student makes the Expert connection by using "plan 2." The student creates a number line for Shawn's fruit bar and a number line for Mike's fruit bar and determines that 1/4 < 1/3 and 1/3 > 1/4. The student states, "I am correct," to verify that their answer is correct.
Representation *Expert*	The student's use of a diagram is appropriate to the task and accurate. The fruit bars for Shawn and Mike are accurately partitioned into fourths and and thirds and are correctly labeled. A key is provided to define a fruit bar. The student's diagrams are also appropriate to the task and accurate. The partitions for fourths and thirds are correct and all necessary labels are included. The student uses number lines to verify their answer. The two number lines are partitioned correctly and all correct labels are provided.

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Achievement Level: Expert 1

P/S	R/P	Com	Con	Rep	A/Level
E	E	E	E	E	E

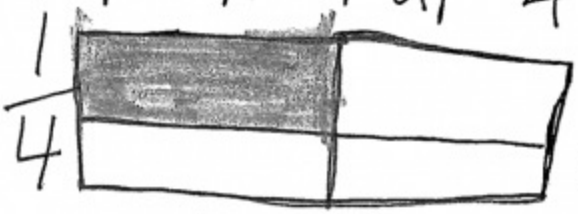
I need to find out did Shawn eat the smallest piece. I can do a diagram of rectangels.

Key
fruit bar

Yes

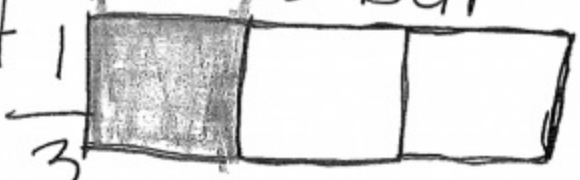
It is not equal in pieces, just equal size bars.

shawns bar 3/4 left



1/4 equal parts

Mikes bar



1/3 2/3 left

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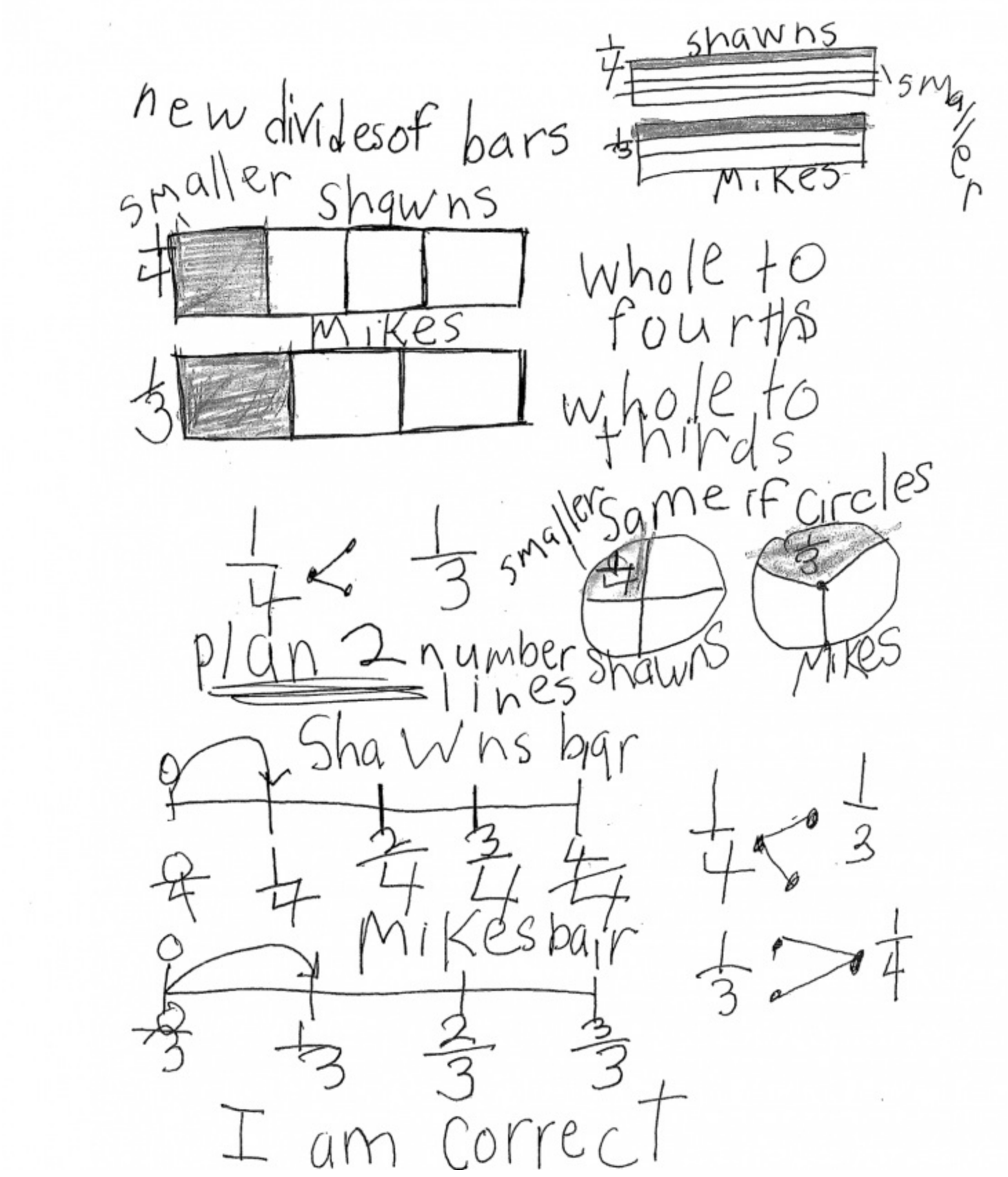

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