TCAP/CRA

2014

5

Phase II
Rounding Decimals Task
Anchor Set

Rounding Decimals Task

When Jamir goes to the store, he notices that a gallon of milk is also labeled 3.79 liters.
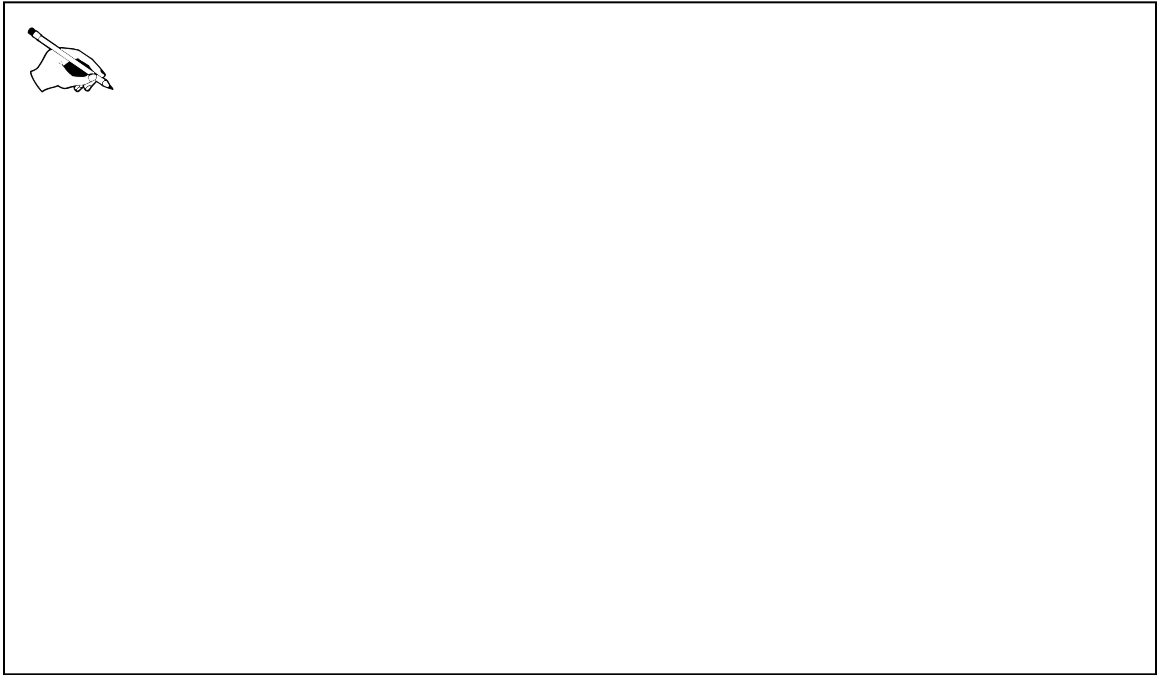
a.   Write the number 3.79 in word form.

Jamir claims that one gallon of milk is close to 3.8 liters. His dad says it is close to 4 liters.

b.   Explain how Jamir and his dad can round 3.79 in different ways to get their answers.

Rounding Decimals Task

c.   Whose rounded answer is a better estimate? How do you know?

d.   Jamir sees other items in the store with measurements listed. Complete the chart by rounding the measurements.

Store Item	Round to the Nearest Whole	Round to the Nearest Tenth	Round to the Nearest Hundredth
A pound of butter = 453.590 grams			
A quart of orange juice = 946.353 milliliters			

Scoring Guide

The CCSS for Mathematical Content (2 points)

5.NBT.A.3   Writes "three and seventy-nine hundredths."
            (1 Point)   ———

5.NBT.A.4   Rounds decimal numbers correctly all six times in the table.
            (1 Point)   ———

The CCSS for Mathematical Practice (2 points)

MP3   Provides sound justification for the choice of whose rounded estimate is "better."
      (1 Point)   ———
      (MP3: Construct viable arguments and critique the reasoning of others.)

MP7   Explains how 3.79 can be rounded to both the tenths and the ones place.
      (1 Point)   ———
      (MP7: Look for and make use of structure.)

                                                    TOTAL POINTS: 4

The CCSS for Mathematical Content Addressed In This Task

Understand the place value system.
5.NBT.A.3   Read, write, and compare decimals to thousandths.
5.NBT.A.4   Use place value understanding to round decimals to any place.

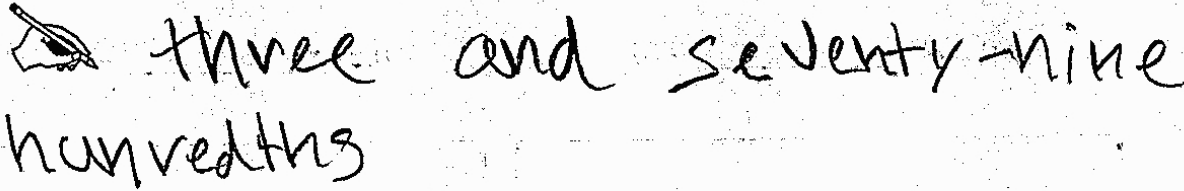| The CCSS for Mathematical Practice* |
|---|
| 1.   Make sense of problems and persevere in solving them.
 2.   Reason abstractly and quantitatively.
 3.   Construct viable arguments and critique the reasoning of others.
 4.   Model with mathematics.
 5.   Use appropriate tools strategically.
 6.   Attend to precision.
 7.   Look for and make use of structure.
 8.   Look for and express regularity in repeated reasoning.

 * Gray type indicates Mathematical Practices not addressed in this assessment. |

Rounding Decimals Task

When Jamir goes to the store, he notices that a gallon of milk is also labeled 3.79 liters.
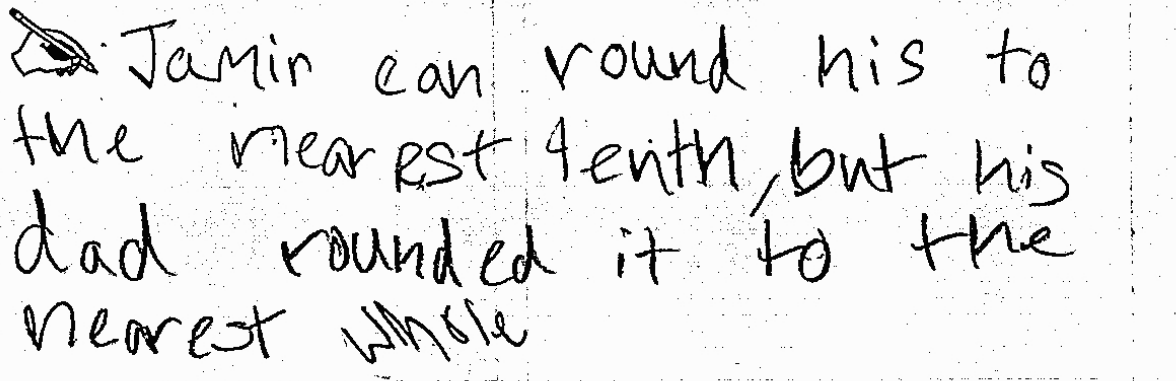
a.   Write the number 3.79 in word form.

> ✏️ three and seventy-nine hunredths

Jamir claims that one gallon of milk is close to 3.8 liters. His dad says it is close to 4 liters.

b.   Explain how Jamir and his dad can round 3.79 in different ways to get their answers.

> ✏️ Jamir can round his to the nearest tenth, but his dad rounded it to the nearest whole

Rounding Decimals Task

c. Whose rounded answer is a better estimate? How do you know?
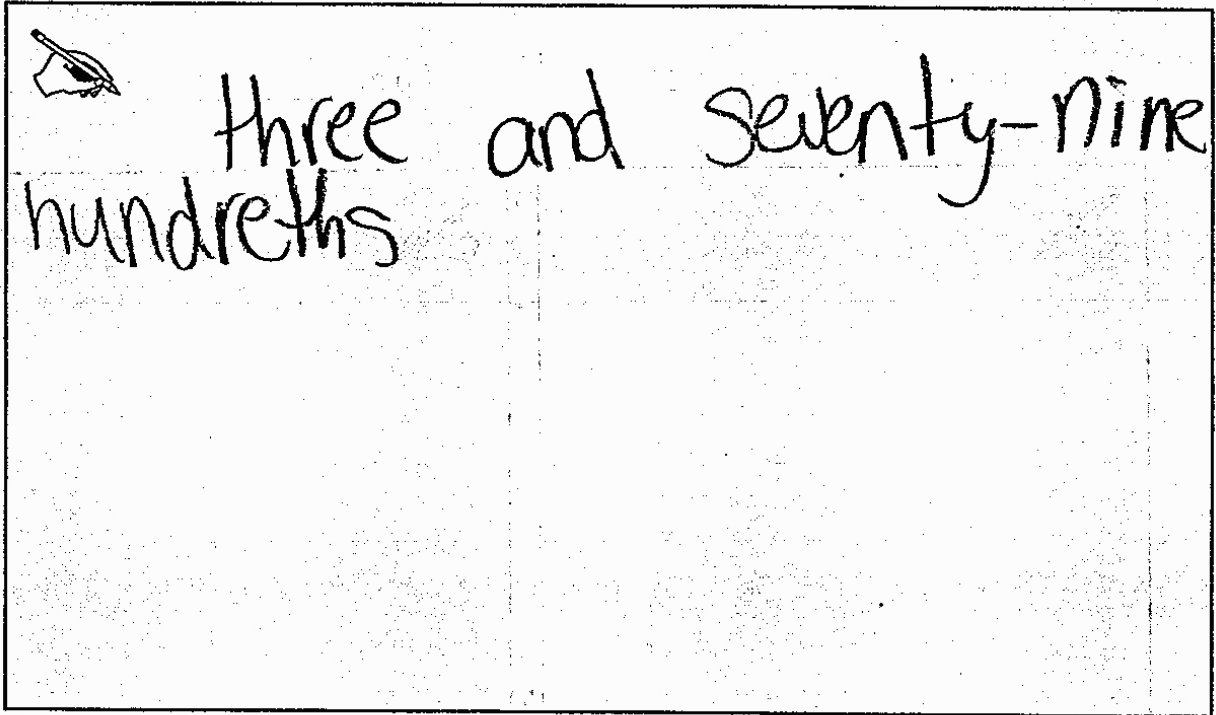
Jamir becaase his answer is closer to 3.79

d. Jamir sees other items in the store with measurements listed. Complete the chart by rounding the measurements.

Store Item	Round to the Nearest Whole	Round to the Nearest Tenth	Round to the Nearest Hundredth
A pound of butter = 453.590 grams	454.	453.6	453.59
A quart of orange juice = 946.353 milliliters	946.	946.4	946.35

Anchor 1   Litho 00235200134

Total Content Points: 2   (5.NBT.A.3, 5.NBT.A.4)

Total Practice Points: 2   (MP3, MP7)

In Part A, the student correctly writes 3.79 in word form (5.NBT.A.3). In Part B, the student explains how Jamir and his dad can round 3.79 in different ways to get their answers by explaining that 3.79 can be rounded to both the tenths and the ones place ("Jamir can round his to the nearest tenth, but his dad rounded it to the nearest whole") (MP7). The student chooses Jamir's estimate in Part C and provides sound justification why his rounded estimate is better ("his answer is closer to 3.79") (MP3). In Part D, every measurement is rounded correctly, indicating an understanding of place value (5.NBT.A.4).

Total Awarded Points: 4 out of 4

Rounding Decimals Task

When Jamir goes to the store, he notices that a gallon of milk is also labeled 3.79 liters.
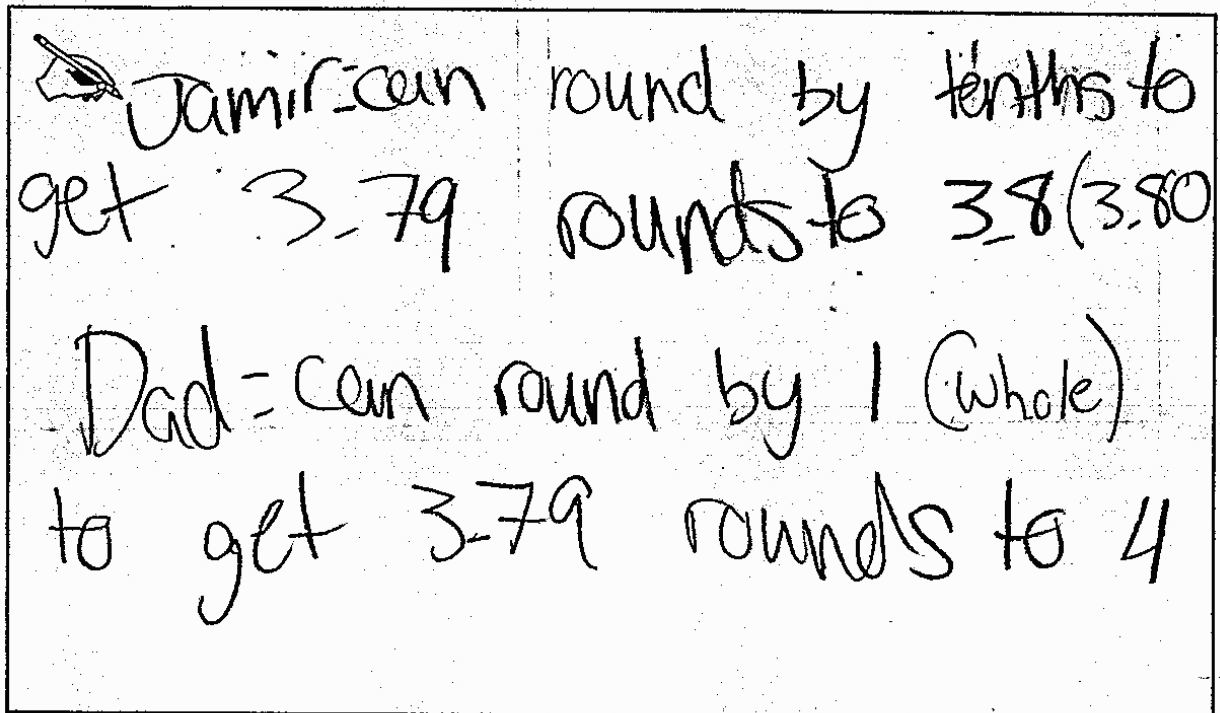
a.   Write the number 3.79 in word form.

three and seventy-nine hundreths

Jamir claims that one gallon of milk is close to 3.8 liters. His dad says it is close to 4 liters.

b.   Explain how Jamir and his dad can round 3.79 in different ways to get their answers.

Jamir can round by tenths to get 3.79 rounds to 3.8 (3.80)

Dad = can round by 1 (whole) to get 3.79 rounds to 4

Litho#: 00245200134

Rounding Decimals Task

c. Whose rounded answer is a better estimate? How do you know?

Jamir cause it is closer to the orginall number than his dad's rounding.

d. Jamir sees other items in the store with measurements listed. Complete the chart by rounding the measurements.

Store Item	Round to the Nearest Whole	Round to the Nearest Tenth	Round to the Nearest Hundredth
A pound of butter = 453.590 grams	454	453.6	453.59
A quart of orange juice = 946.353 milliliters	946	946.4	946.35

Anchor 2   Litho 00245200134

Total Content Points: 2   (5.NBT.A.3, 5.NBT.A.4)

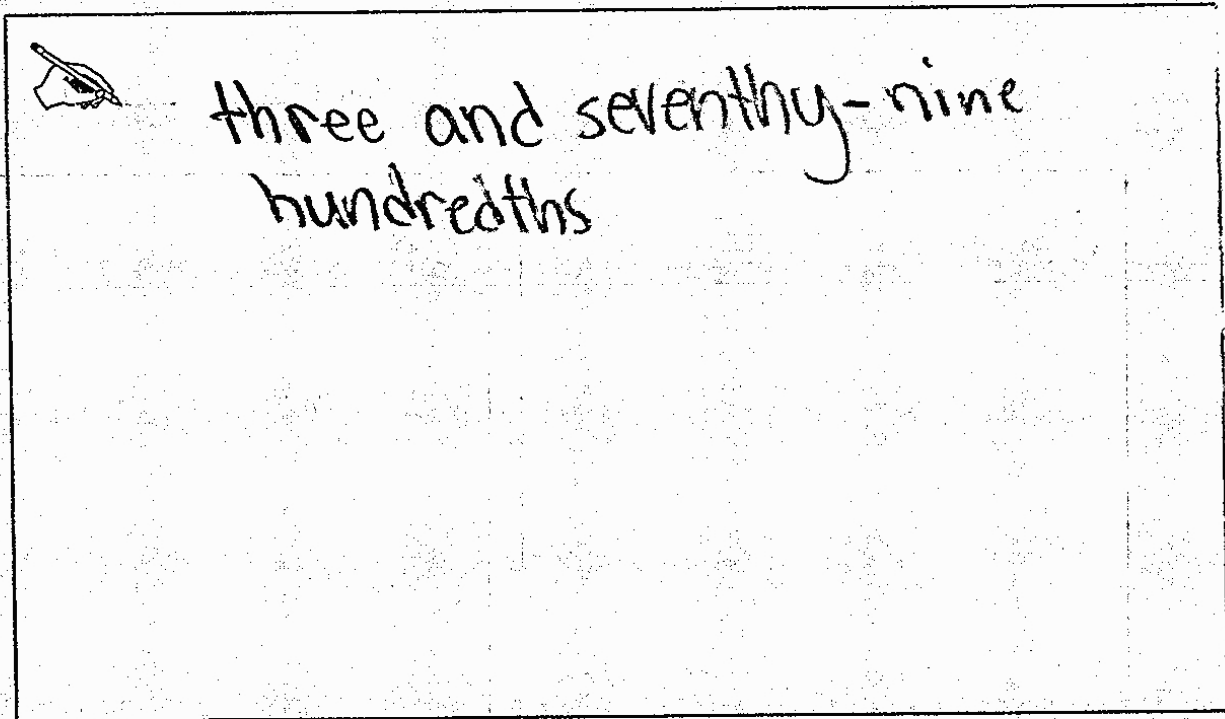Total Practice Points: 2   (MP3, MP7)

In Part A, the student correctly writes 3.79 in word form (5.NBT.A.3). In Part B, the student explains how Jamir and his dad can round 3.79 in different ways to get their answers by explaining that 3.79 can be rounded to both the tenths and the ones place ("Jamir = can round by tenths . . . Dad = can round by 1 (whole)") (MP7). The student chooses Jamir's estimate in Part C and provides sound justification why his rounded estimate is better ("it is closer to the orginal number than his dad's rounding") (MP3). In Part D, every measurement is rounded correctly, indicating an understanding of place value (5.NBT.A.4).

Total Awarded Points: 4 out of 4

Rounding Decimals Task

When Jamir goes to the store, he notices that a gallon of milk is also labeled 3.79 liters.
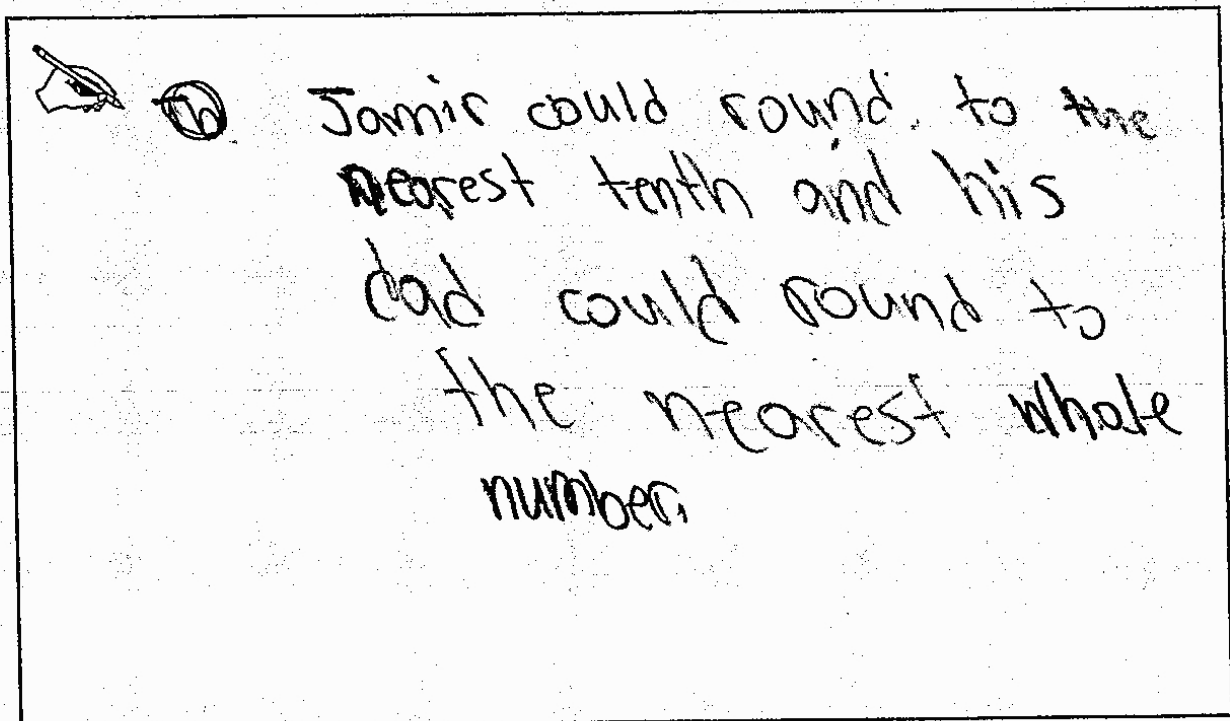
a.   Write the number 3.79 in word form.

three and seventhy-nine hundredths

Jamir claims that one gallon of milk is close to 3.8 liters. His dad says it is close to 4 liters.
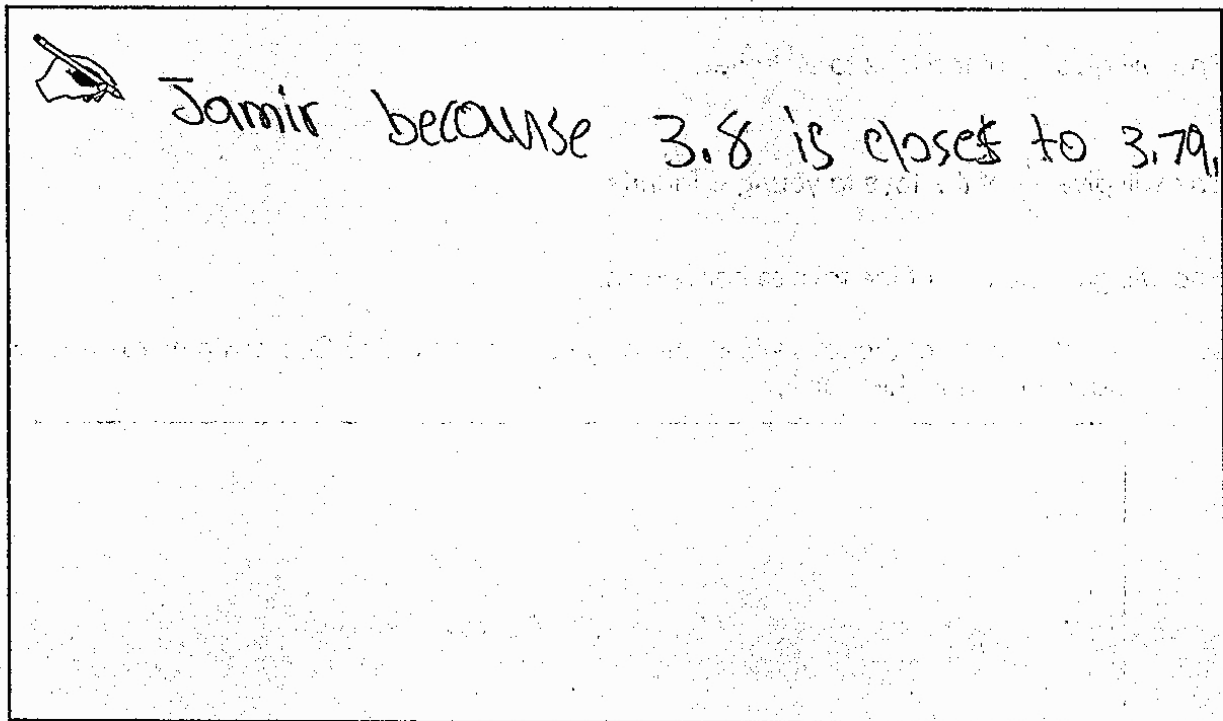
b.   Explain how Jamir and his dad can round 3.79 in different ways to get their answers.

b) Jamir could round to the nearest tenth and his dad could round to the nearest whole number.

Rounding Decimals Task

c. Whose rounded answer is a better estimate? How do you know?

Jamir because 3.8 is closes to 3.79.

d. Jamir sees other items in the store with measurements listed. Complete the chart by rounding the measurements.

Store Item	Round to the Nearest Whole	Round to the Nearest Tenth	Round to the Nearest Hundredth
A pound of butter = 453.590 grams	454.000 grams	453.600 grams	453.590 grams
A quart of orange juice = 946.353 milliliters	946.000 milliliters	946.400 milliliters	946.450 milliliters

Litho#: 00365200136

Anchor 3   Litho 00365200136

Total Content Points: 1   (5.NBT.A.3)

Total Practice Points: 2   (MP3, MP7)

In Part A, the student correctly writes 3.79 in word form (5.NBT.A.3). In Part B, the student explains how Jamir and his dad can round 3.79 in different ways to get their answers by explaining that 3.79 can be rounded to both the tenths and the ones place ("Jamir could round to the nearest tenth and his dad could round to the nearest whole number") (MP7). The student chooses Jamir's estimate in Part C and provides sound justification why his rounded estimate is better ("3.8 is closest to 3.79") (MP3). In Part D, the student incorrectly rounds 946.353 to the hundredths place as 946.450 (no credit for 5.NBT.A.4).

Total Awarded Points: 3 out of 4

A-4a

Rounding Decimals Task

When Jamir goes to the store, he notices that a gallon of milk is also labeled 3.79 liters.

a.   Write the number 3.79 in word form.

> Three and Seventy-Nine hundredths.

Jamir claims that one gallon of milk is close to 3.8 liters. His dad says it is close to 4 liters.

b.   Explain how Jamir and his dad can round 3.79 in different ways to get their answers.

> For 3.8, you would round 3.79 to the nearest tenth, which would become 3.8.
> For 4, you would round 3.79 to the nearest whole which would become 4.

Rounding Decimals Task

c.   Whose rounded answer is a better estimate? How do you know?

> I would say Jamir's dad.
> I know because if you
> buy a jug of milk, then
> 3.8 liters can't fill the
> jug all the way, but 4
> liters can.

d.   Jamir sees other items in the store with measurements listed. Complete the chart by rounding the measurements.

Store Item	Round to the Nearest Whole	Round to the Nearest Tenth	Round to the Nearest Hundredth
A pound of butter = 453.590 grams	454.000	453.600	453.590
A quart of orange juice = 946.353 milliliters	946.000	946.400	946.350

Anchor 4   Litho 00195200134

Total Content Points: 2   (5.NBT.A.3, 5.NBT.A.4)

Total Practice Points: 1   (MP7)

In Part A, the student correctly writes 3.79 in word form (5.NBT.A.3). In Part B, the student explains how Jamir and his dad can round 3.79 in different ways to get their answers by explaining that 3.79 can be rounded to both the tenths and the ones place (". . . you would round 3.79 to the nearest tenth, which would become 3.8 . . . you would round 3.79 to the nearest whole, which would become 4") (MP7). The student chooses Jamir's dad's estimate in Part C, but the argument is not sound justification for why his dad's rounded estimate is better (". . . if you buy a jug of milk, then 3.8 liters can't fill the jug all the way, but 4 liters can") (no credit for MP3). In Part D, every measurement is rounded correctly, indicating an understanding of place value (5.NBT.A.4).

Total Awarded Points: 3 out of 4

Rounding Decimals Task

When Jamir goes to the store, he notices that a gallon of milk is also labeled 3.79 liters.

a.   Write the number 3.79 in word form.

Three and seventy - nine hundredths

Jamir claims that one gallon of milk is close to 3.8 liters. His dad says it is close to 4 liters.

b.   Explain how Jamir and his dad can round 3.79 in different ways to get their answers.

3.79   or   3.8

3.80 or 3.8   4 liters

Litho#: 00185200136

Rounding Decimals Task

c.   Whose rounded answer is a better estimate? How do you know?

> I think 4 liters is a better estimate cause when you round 3.79 you get 3.8 well it is still a decimal so you would have to round it up again to 4.
>
> 3.79 → 3.8   or   3.8 → 4   4

d.   Jamir sees other items in the store with measurements listed. Complete the chart by rounding the measurements.

Store Item	Round to the Nearest Whole	Round to the Nearest Tenth	Round to the Nearest Hundredth
A pound of butter = 453.590 grams	454.000	453.600	453.590
A quart of orange juice = 946.353 milliliters	946.000	946.400	946.350

Anchor 5   Litho 00185200136

Total Content Points: 2   (5.NBT.A.3, 5.NBT.A.4)
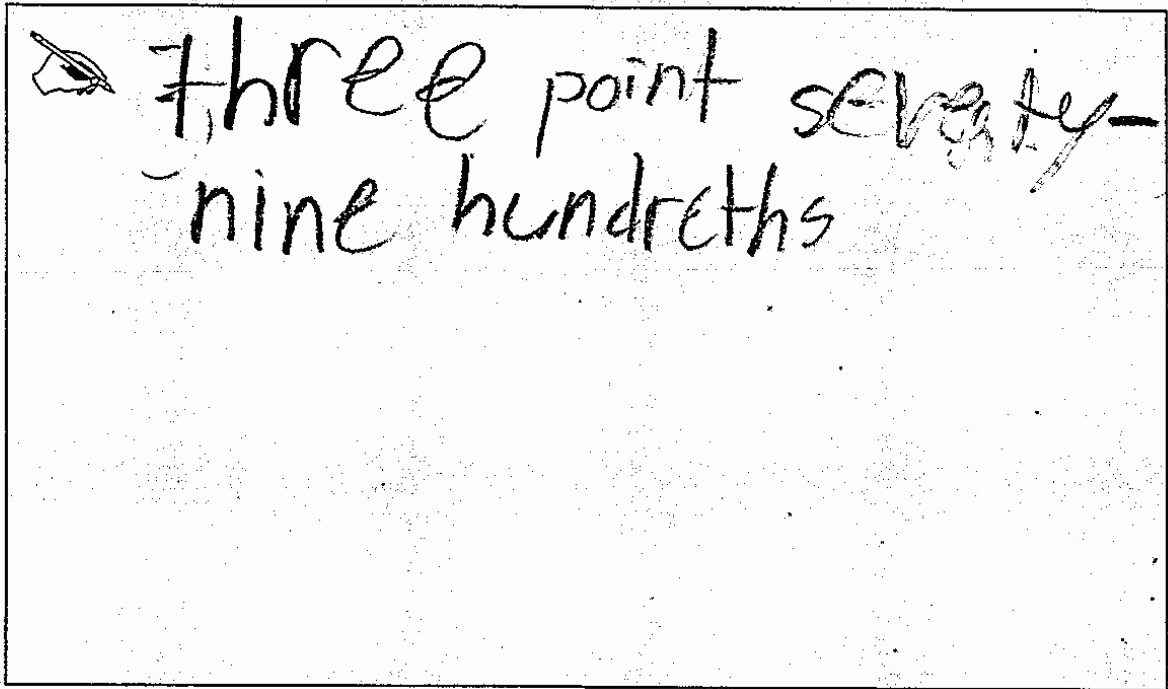
Total Practice Points: 0

In Part A, the student correctly writes 3.79 in word form (5.NBT.A.3). In Part B, although the student has rounded correctly, the arrows alone do not sufficiently explain rounding to both the tenths and the ones place (no credit for MP7). The student chooses 4 liters as the better estimate in Part C, but the argument is not sound justification for why that rounded estimate is better (". . . when you round 3.79 you get 3.8 well it is still a decimal so you would have to round it up again to 4") (no credit for MP3). In Part D, every measurement is rounded correctly, indicating an understanding of place value (5.NBT.A.4).

Total Awarded Points: 2 out of 4

A-6a

Rounding Decimals Task

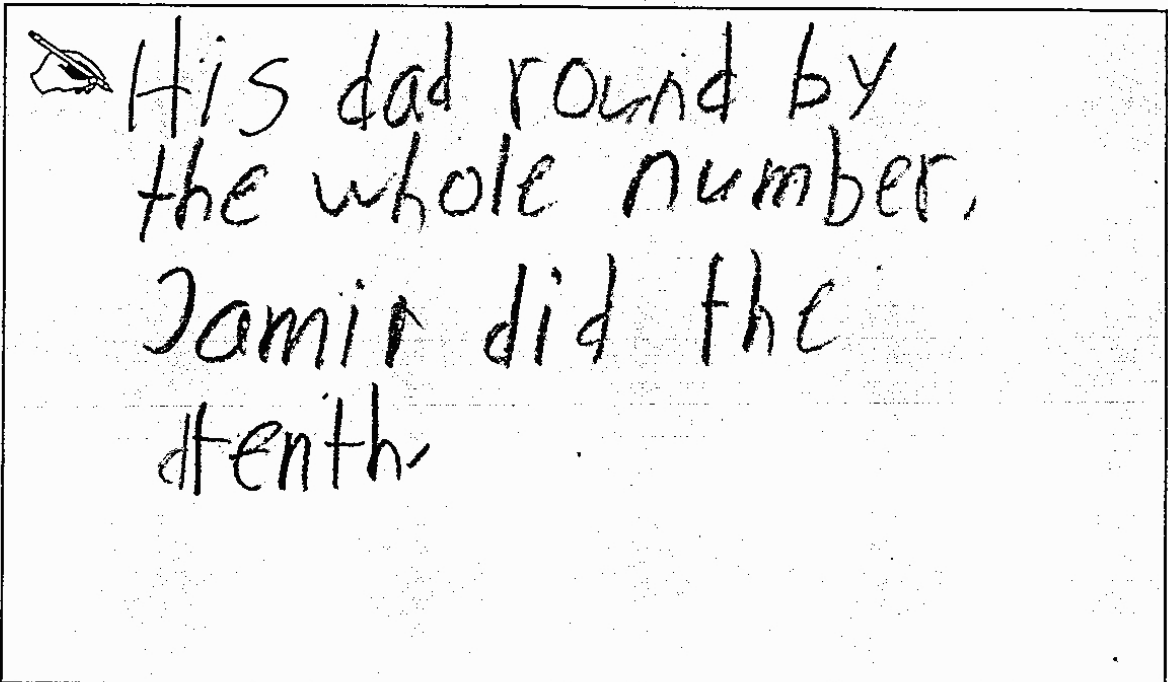When Jamir goes to the store, he notices that a gallon of milk is also labeled 3.79 liters.

a. Write the number 3.79 in word form.

three point seventy-
nine hundreths

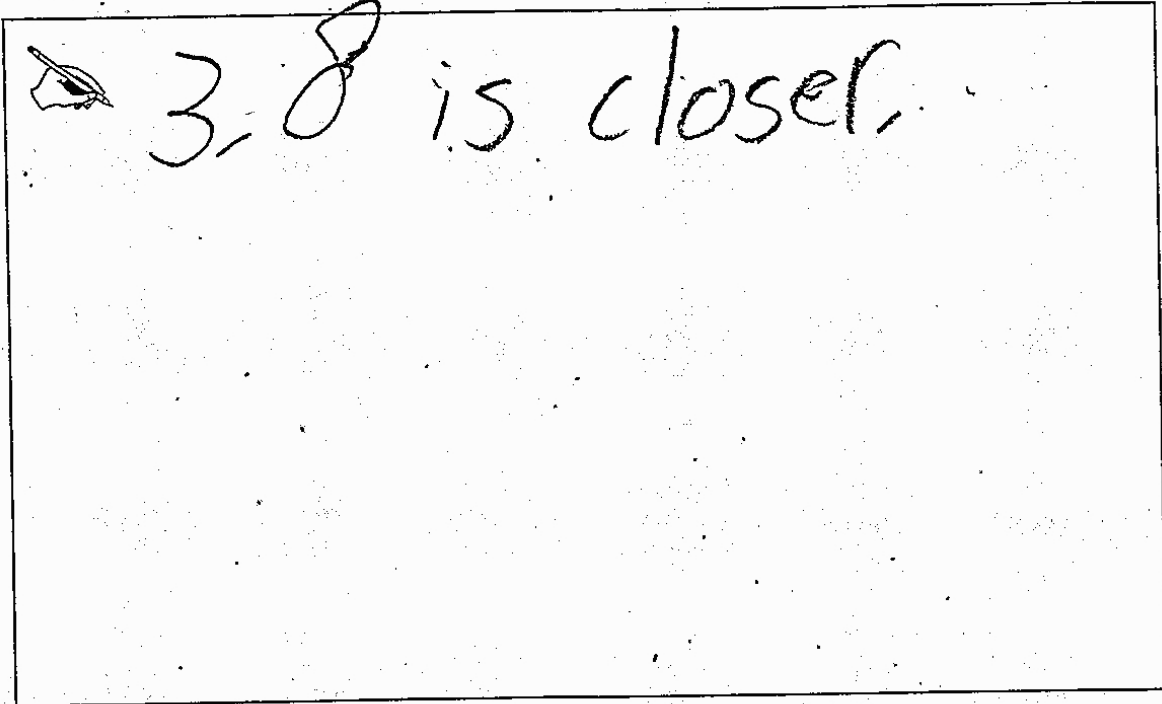Jamir claims that one gallon of milk is close to 3.8 liters. His dad says it is close to 4 liters.

b. Explain how Jamir and his dad can round 3.79 in different ways to get their answers.

His dad round by
the whole number,
Jamir did the
tenth.

Litho#: 00305200133

Rounding Decimals Task

c.   Whose rounded answer is a better estimate? How do you know?

3.8 is closer.

d.   Jamir sees other items in the store with measurements listed. Complete the chart by
rounding the measurements.

Store Item	Round to the Nearest Whole	Round to the Nearest Tenth	Round to the Nearest Hundredth
A pound of butter = 453.590 grams	454	453.6	453.59 0
A quart of orange juice = 946.353 milliliters	946	946.4	946.350

Litho#: 00305200133

Anchor 6   Litho 00305200133

Total Content Points: 1   (5.NBT.A.4)

Total Practice Points: 1   (MP7)

In Part A, the student's response is incorrect because it says "point" instead of "and" ("three point seventy-nine hundreths") (no credit for 5.NBT.A.3). In Part B, the student explains how Jamir and his dad can round 3.79 in different ways to get their answers by explaining that 3.79 can be rounded to both the tenths and the ones place ("His dad round by the whole number. Jamir did the tenth.") (MP7). The student chooses 3.8 in Part C, but the argument ("3.8 is closer") does not provide sound justification for why that rounded estimate is better because it fails to indicate to what 3.8 is closer and thus lacks specificity (no credit for MP3). In Part D, every measurement is rounded correctly, indicating an understanding of place value (5.NBT.A.4).

Total Awarded Points: 2 out of 4

Rounding Decimals Task

When Jamir goes to the store, he notices that a gallon of milk is also labeled 3.79 liters.

a.   Write the number 3.79 in word form.

> three and seventy nine hundreths

Jamir claims that one gallon of milk is close to 3.8 liters. His dad says it is close to 4 liters.

b.   Explain how Jamir and his dad can round 3.79 in different ways to get their answers.

> you could round 3.79 the the hundreths place which would be 3.8. You could also round to the whole number which would be 4.

Litho#: 00805200134

Rounding Decimals Task

c.   Whose rounded answer is a better estimate? How do you know?

Jamir's dad's estimate is better because it's usually easier to round to the whole number

d.   Jamir sees other items in the store with measurements listed. Complete the chart by rounding the measurements.

Store Item	Round to the Nearest Whole	Round to the Nearest Tenth	Round to the Nearest Hundredth
A pound of butter = 453.590 grams	450.000	453.600	453.590
A quart of orange juice = 946.353 milliliters	950.000	946.600	946.350

Litho#: 00805200134

Anchor 7   Litho 00805200134

Total Content Points: 1   (5.NBT.A.3)
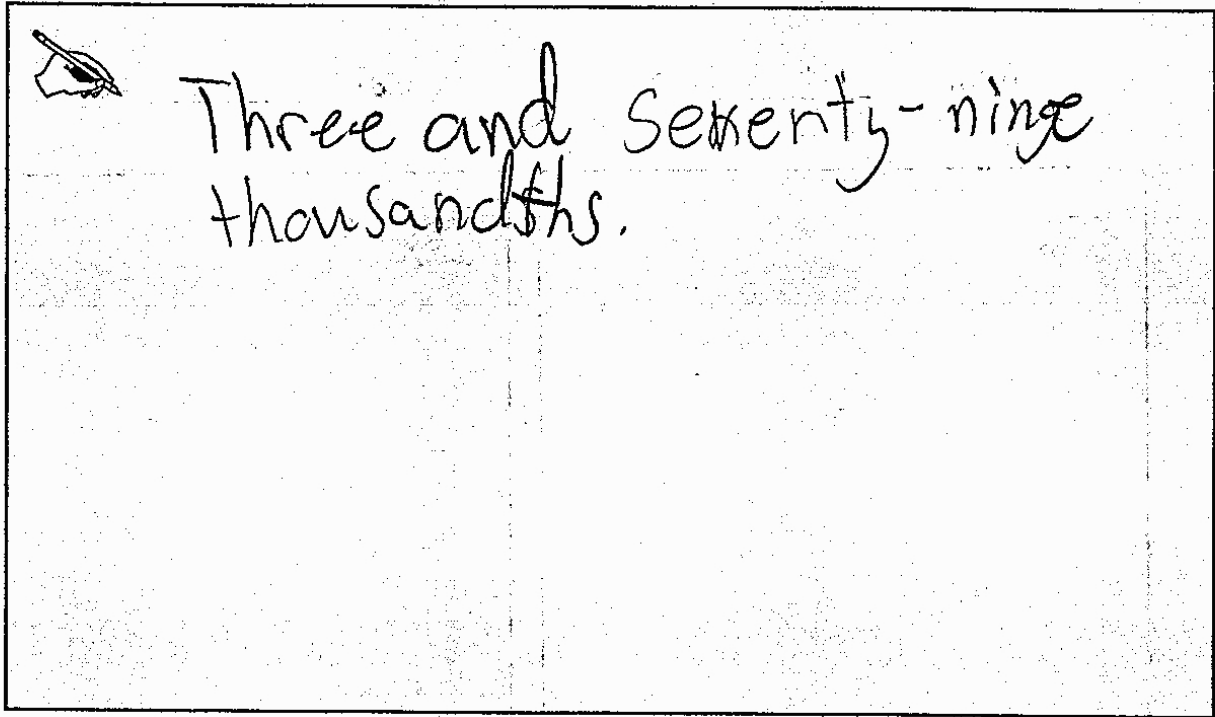
Total Practice Points: 0

In Part A, the student correctly writes 3.79 in word form (5.NBT.A.3). In Part B, the student correctly rounds to the whole number (4), but incorrectly refers to rounding 3.79 to "the hundredths place which would be 3.8" (no credit for MP7). The student chooses Jamir's dad's estimate in Part C, but the argument is not sound justification for why his dad's rounded estimate is better (". . . it's usually easier to round to the whole number") (no credit for MP3). In Part D, both numbers rounded to the nearest whole are incorrect as is the number 946.353 rounded to the nearest tenth (946.600) (no credit for 5.NBT.A.4).

Total Awarded Points: 1 out of 4

Rounding Decimals Task

When Jamir goes to the store, he notices that a gallon of milk is also labeled 3.79 liters.
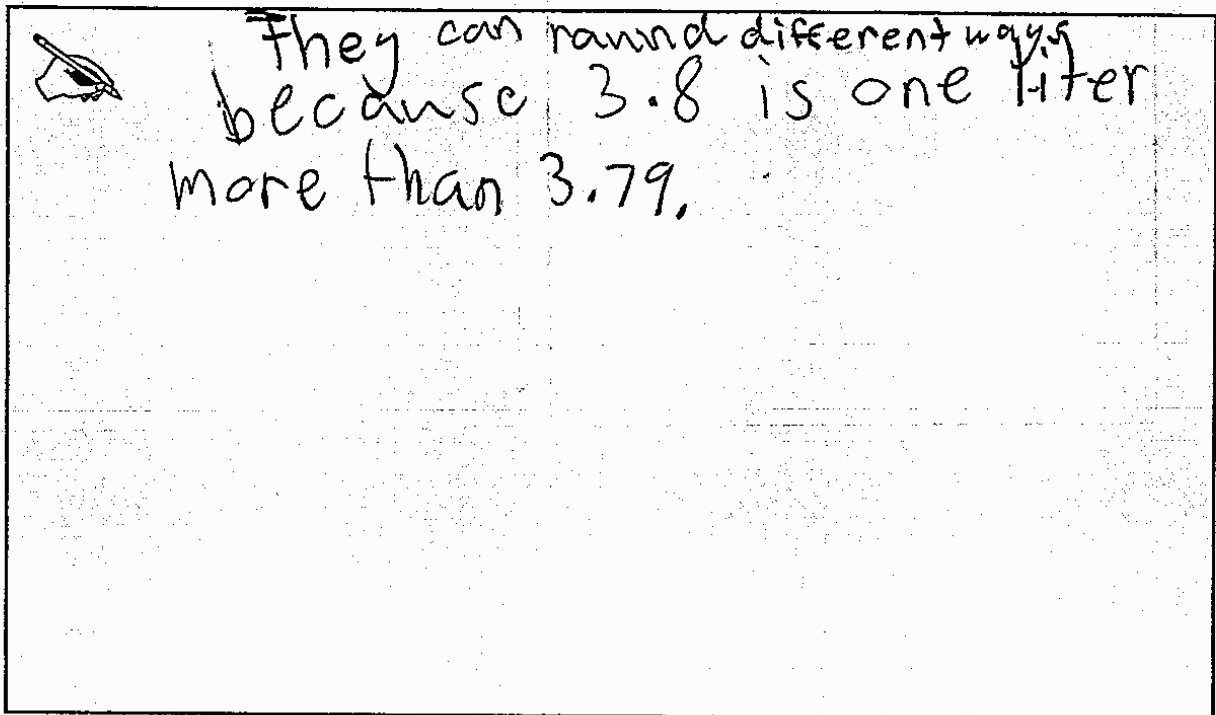
a.   Write the number 3.79 in word form.

> Three and seventy-nine
> thousandths.

Jamir claims that one gallon of milk is close to 3.8 liters. His dad says it is close to 4 liters.
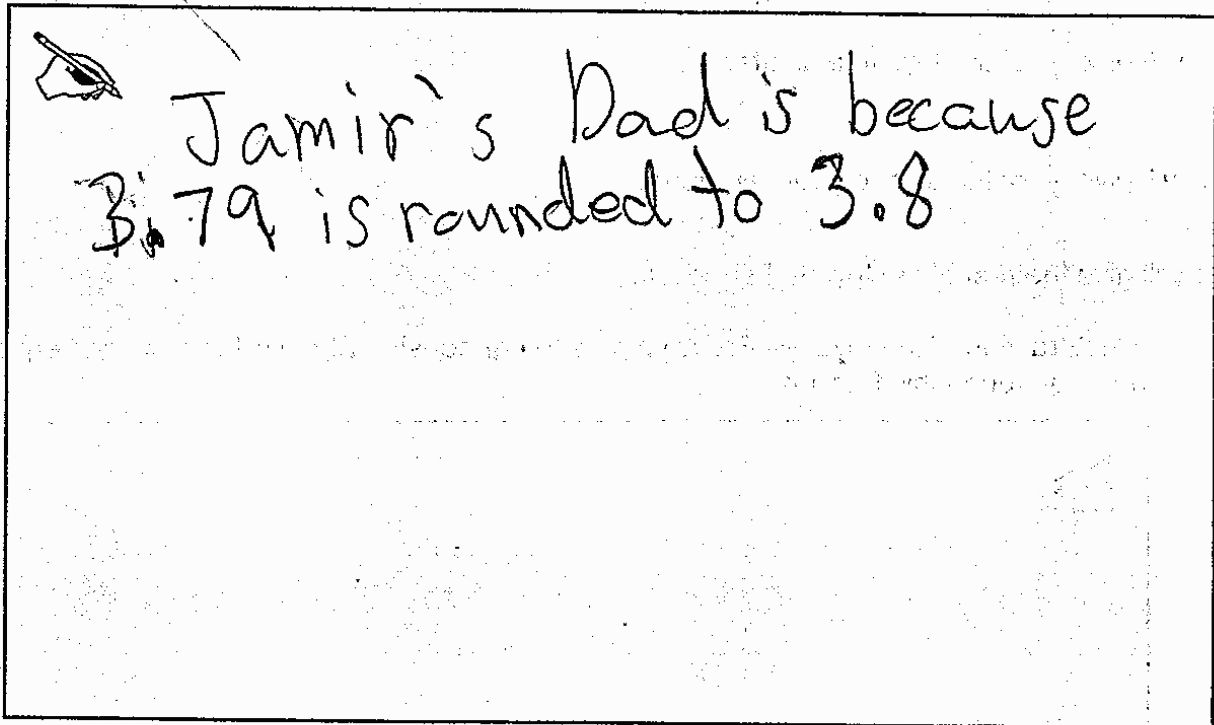
b.   Explain how Jamir and his dad can round 3.79 in different ways to get their answers.

> They can round different ways
> because 3.8 is one liter
> more than 3.79.

Litho#: 00265200134

Rounding Decimals Task

c. Whose rounded answer is a better estimate? How do you know?

Jamir's Dad's because $3.79 is rounded to 3.8

d. Jamir sees other items in the store with measurements listed. Complete the chart by rounding the measurements.

Store Item	Round to the Nearest Whole	Round to the Nearest Tenth	Round to the Nearest Hundredth
A pound of butter = 453.590 grams	454	453.6	453.59
A quart of orange juice = 946.353 milliliters	946	946.4	946.35

Litho#: 00265200134

Anchor 8   Litho 00265200134

Total Content Points: 1   (5.NBT.A.4))

Total Practice Points: 0

In Part A, the student's response is incorrect ("Three and seventy-nine thousandths") (no credit for 5.NBT.A.3). In Part B, the student's explanation provides no indication of recognizing the structure of math to round to both the tenths and the ones place (". . . 3.8 is one liter more than 3.79") (no credit for MP7). The student chooses Jamir's Dad's estimate in Part C, but the argument is not sound justification for why his dad's rounded estimate is better (". . . 3.79 is rounded to 3.8") (no credit for MP3). In Part D, every measurement is rounded correctly, indicating an understanding of place value (5.NBT.A.4).

Total Awarded Points: 1 out of 4

A-9a

Rounding Decimals Task

When Jamir goes to the store, he notices that a gallon of milk is also labeled 3.79 liters.

a.   Write the number 3.79 in word form.

> 3 and 79 hundredths

Jamir claims that one gallon of milk is close to 3.8 liters. His dad says it is close to 4 liters.

b.   Explain how Jamir and his dad can round 3.79 in different ways to get their answers.

> 3.79 = 3.80
> the nine makes it go to 80
>
> 3.79 = 4.00
> the seven makes it go to four

Litho#: 00025200133

Rounding Decimals Task

c.   Whose rounded answer is a better estimate? How do you know?

Jamir's It is the closest to 3.79

(3.80)

d.   Jamir sees other items in the store with measurements listed. Complete the chart by rounding the measurements.

Store Item	Round to the Nearest Whole	Round to the Nearest Tenth	Round to the Nearest Hundredth
A pound of butter = 453.590 grams	454	.60	.0
A quart of orange juice = 946.353 milliliters	946	.40	.350

Litho#: 00025200133

Anchor 9   Litho 00025200133

Total Content Points: 0

Total Practice Points: 1   (MP3)

In Part A, the student's response is not entirely in word form ("3 and 79 hundredths") (no credit for 5.NBT.A.3). In Part B, although the rounding is correct, the student's explanation how Jamir and his dad can round 3.79 in different ways to get their answers does not clearly address rounding to the tenths and ones place ("the nine makes it go to 80; the seven makes it go to four") (no credit for MP7). The student chooses Jamir's estimate in Part C and provides sound justification why his rounded estimate is better ("It is the closetest to 3.79") (MP3). In Part D, only the numbers rounded to the nearest whole are correct. The rest are incorrect (no credit for 5.NBT.A.4).

Total Awarded Points: 1 out of 4

A-10a

Rounding Decimals Task

When Jamir goes to the store, he notices that a gallon of milk is also labeled 3.79 liters.

a. Write the number 3.79 in word form.

three and seventy-nine thousanths

Jamir claims that one gallon of milk is close to 3.8 liters. His dad says it is close to 4 liters.

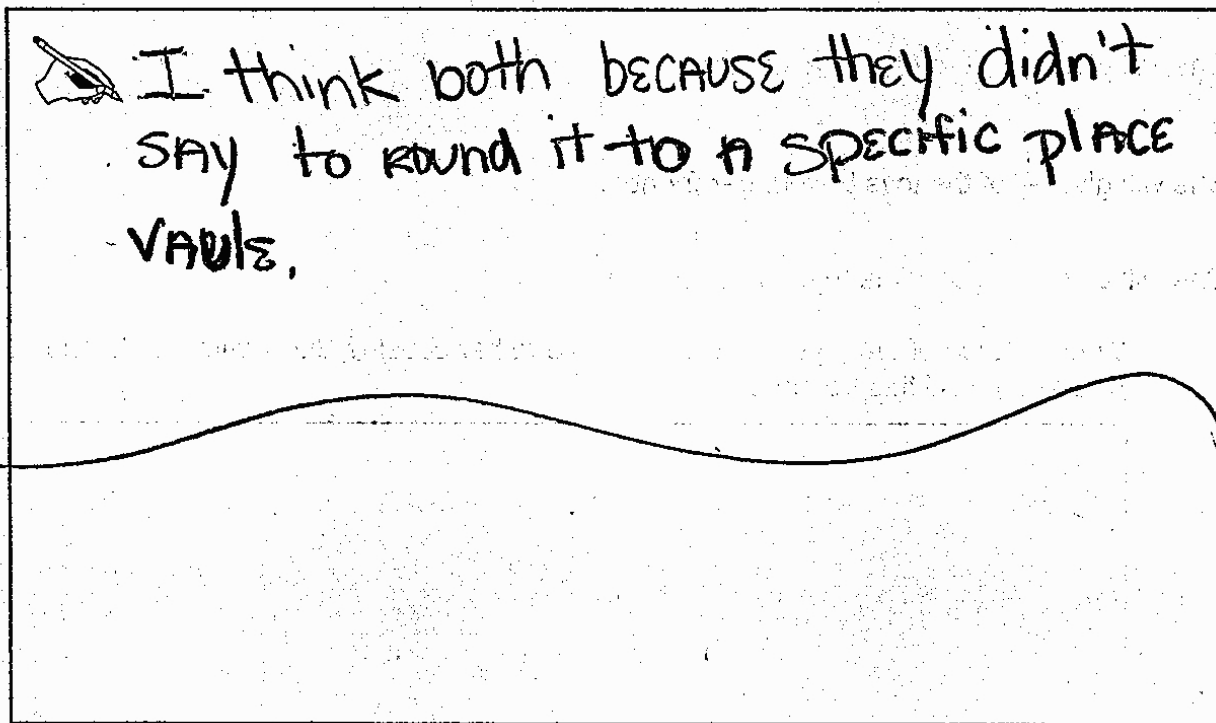b. Explain how Jamir and his dad can round 3.79 in different ways to get their answers.

Jamir: $3.79 \approx 3.8$

dad: $3.79 \approx 4.00$

Litho#: 00395200136

Rounding Decimals Task

c. Whose rounded answer is a better estimate? How do you know?

I think both bECAUSE they didn't SAy to Round it to A SPEcific plAcE VAulE.

d. Jamir sees other items in the store with measurements listed. Complete the chart by rounding the measurements.

Store Item	Round to the Nearest Whole	Round to the Nearest Tenth	Round to the Nearest Hundredth
A pound of butter = 453.590 grams	453.000 g	454.000 g	453.600 g
A quart of orange juice = 946.353 milliliters	950.000 mm	946.000 mm	946.400 mm

Total Content Points: 0

Total Practice Points: 0

In Part A, the student's response is incorrect ("three and seventy-nine thousanths") (no credit for 5.NBT.A.3). Although the student has rounded correctly in Part B, the arrows alone do not sufficiently explain rounding to both the tenths and the ones place (no credit for MP7). In Part C, the student fails to make or justify a choice of whose rounded estimate is better (no credit for MP3). In Part D, all six of the measurements are rounded incorrectly (no credit for 5.NBT.A.4).

Total Awarded Points: 0 out of 4