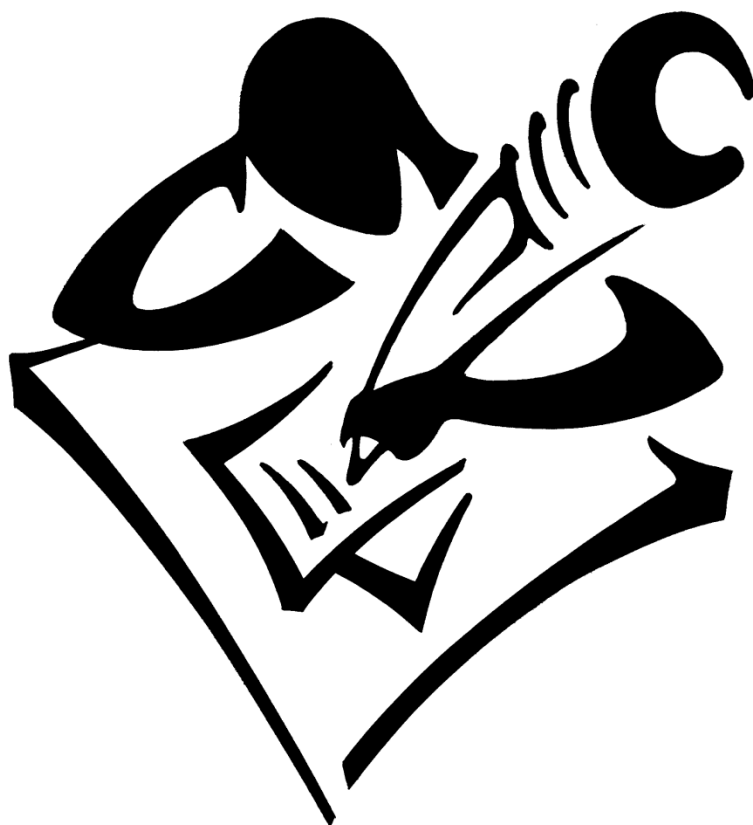


Tennessee Comprehensive Assessment Program

TCAP/CRA 2013



4

Anchor Set

Grade 4 – Raffle Tickets Task

SECURE MATERIAL - Reader Name: _____

Tennessee Comprehensive Assessment Program

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Part 2: Constructed Response Assessment

Raffle Tickets Task

Alexa sold 237 raffle tickets. Cayden sold 4 times as many raffle tickets as Alexa. How many raffle tickets did Cayden sell?

- a. Use rounding to estimate the number of tickets that Cayden sold. Then find the exact number of tickets that Cayden sold. Use diagrams or equations to show how you found your answers.

Estimated Number of Tickets by Rounding	Exact Number of Tickets



Part 2: Constructed Response Assessment

- b. Shown below is a student's work for the exact solution to the problem:

Exact $237 = 200 + 3 + 7$

$$\begin{array}{r} \times 4 \\ \hline 28 \\ 12 \\ + 800 \\ \hline 840 \end{array}$$

Identify the mistake the student made in decomposing the number 237. Explain how this makes the student's exact solution incorrect.



Scoring Guide

The CCSS for Mathematical Content (3 points)

4.OA.A.2 Calculates accurately the exact number of tickets Cayden sold. **(1 Point)** _____

4.NBT.A.1 Identifies the digit 3 as a misrepresentation of the value 30. **(1 Point)** _____

4.NBT.A.3 Rounds 237 to 200 or 240 as part of the process of estimating the product of 237×4 . _____

OR

Rounds the calculated exact product accurately for the tens or hundreds place.
(1 Point) _____

The CCSS for Mathematical Practice (2 points)

MP3 Explains how the error in decomposition impacts the student's calculated solution.
(1 Point) _____
(MP3: Construct viable arguments and critique the reasoning of others.)

MP4 Provides a diagram depicting four equal groups or a multiplication/repeated addition equation to explain the repetition of the number of tickets for the estimated or exact number of tickets. **(1 Point)** _____
(MP4: Model with mathematics.)

TOTAL POINTS: 5

The CCSS for Mathematical Content Addressed In This Task

Use the four operations with whole numbers to solve problems.

- 4.OA.A.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

Generalize place value understanding for multi-digit whole numbers.

- 4.NBT.A.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.*
- 4.NBT.A.3 Use place value understanding to round multi-digit whole numbers 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.

2. Raffle Tickets Task

Allexa sold 237 raffle tickets. Cayden sold 4 times as many raffle tickets as Allexa. How many raffle tickets did Cayden sell?


- a. Use rounding to estimate the number of tickets that Cayden sold. Then find the exact number of tickets that Cayden sold. Use diagrams or equations to show how you found your answers.

Estimated Number of Tickets by Rounding	Exact Number of Tickets
$200 \times 4 = 800$ $30 \times 4 = 120$ $7 \times 4 = 28$ $\begin{array}{r} 820 \\ + 28 \\ \hline 848 \end{array}$ <p>About 950 tickets</p>	948

- b. Shown below is a student's work for the exact solution to the problem:

Exact	$237 = 200 + 3 + 7$
$\times 4$	$\begin{array}{r} \times \\ \hline 28 \\ 12 \\ + 800 \\ \hline 840 \end{array}$

Identify the mistake the student made in decomposing the number 237. Explain how this makes the student's exact solution incorrect.

 The mistake she/he made was: $237: 200 + 3 + 7$
 it should be: $237: 200 + 30 + 7$
 $3 + 7 = 10$, so he/she's multiplying 210×4 instead of 237×4 .

Anchor 1

Litho 0194

Total Content Points: 3 (4.OA.A.2, 4.NBT.A.1, 4.NBT.A.3)

Total Practice Points: 2 (MP3, MP4)

The student accurately calculates the exact number of tickets Cayden sold in Part A to solve a word problem involving multiplicative comparison ($237 \times 4 = 948$) (4.OA.A.2). In Part B, the student identifies the digit 3 as a misrepresentation of the value 30, recognizing that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right (“The mistake she/he made was: 237: $200 + 3 + 7$ it should be: 237: $200 + 30 + 7$ ”) (4.NBT.A.1). The student uses place value understanding to accurately round the calculated exact product of 948 for the tens place to 950 in Part A (4.NBT.A.3). In Part B, the student adequately explains how the error in decomposition impacts the provided calculated solution by stating “ $3 + 7 = 10$, so he/she’s multiplying 210×4 instead of 237×4 ,” suggesting an understanding that this uneven equation would lead to an incorrect solution (MP3). By providing a series of multiplication equations to represent 237×4 to find the exact number of tickets, the student adequately explains the repetition of the number of tickets.(MP4).

Total Awarded Points: 5 out of 5

Alexa sold 237 raffle tickets. Cayden sold 4 times as many raffle tickets as Alexa. How many raffle tickets did Cayden sell?

- a. Use rounding to estimate the number of tickets that Cayden sold. Then find the exact number of tickets that Cayden sold. Use diagrams or equations to show how you found your answers.

Estimated Number of Tickets by Rounding	Exact Number of Tickets
800	948

$$200 \times 4 = 800 \quad 237 \times 4 = 948$$

- b. Shown below is a student's work for the exact solution to the problem:

$$\begin{array}{r} \text{Exact } 237 = 200 + 3 + 7 \\ \times 4 \quad \times \quad \times \\ \hline 28 \\ 12 \\ + 800 \\ \hline 840 \end{array}$$

Identify the mistake the student made in decomposing the number 237. Explain how this makes the student's exact solution incorrect.

the three is supposed to be 30 in this picture it would be 240

Anchor 2

Litho 0016

Total Content Points: 3 (4.OA.A.2, 4.NBT.A.1, 4.NBT.A.3)

Total Practice Points: 2 (MP3, MP4)

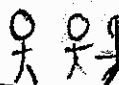
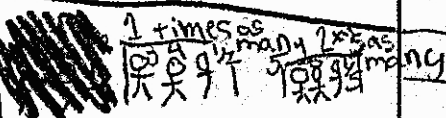
The student accurately calculates the exact number of tickets Cayden sold in Part A to solve a word problem involving multiplicative comparison ($237 \times 4 = 948$) (4.OA.A.2). In Part B, the student identifies the digit 3 as a misrepresentation of the value 30, recognizing that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right (“the three is sposed to be 30”) (4.NBT.A.1). The student uses place value understanding to round 237 to 200 in Part A as part of the process of estimating the product of 237×4 ($200 \times 4 = 800$) (4.NBT.A.3). In Part B, the student adequately explains how the error in decomposition impacts the provided calculated solution by stating “in this picture it would be 210,” suggesting an understanding that $200 + 3 + 7 = 210$, which is not equal to the 237 on the other side of the equation, leading to an incorrect solution (MP3). To explain the repetition of the number of tickets, the student provides equations that multiply by 4 in Part A for both the estimated ($200 \times 4 = 800$) and exact number ($237 \times 4 = 948$) of tickets (MP4).

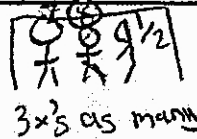
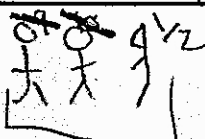
Total Awarded Points: 5 out of 5

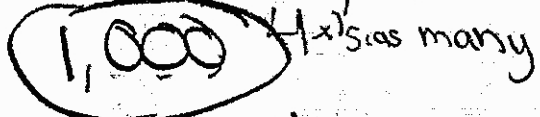
2. Raffle Tickets Task

Alexa sold 237 raffle tickets. Cayden sold 4 times as many raffle tickets as Alexa. How many raffle tickets did Cayden sell?

- a. Use rounding to estimate the number of tickets that Cayden sold. Then find the exact number of tickets that Cayden sold. Use diagrams or equations to show how you found your answers.

Estimated Number of Tickets by Rounding		Exact Number of Tickets
	$\begin{array}{r} 2 \\ 250 \\ \times 4 \\ \hline 1,000 \end{array}$	$\begin{array}{r} 12 \\ 237 \\ \times 4 \\ \hline 948 \end{array}$
Alexa		$237 \times 4 = 1,000 =$
Cayden		




Tickets sold from Cayden.

b. Shown below is a student's work for the exact solution to the problem:

$$\begin{array}{r}
 \text{Exact } 237 = 200 + 3 + 7 \\
 \times 4 \quad \times \quad \times \\
 \hline
 28 \\
 12 \\
 + 800 \\
 \hline
 840
 \end{array}$$

Identify the mistake the student made in decomposing the number 237. Explain how this makes the student's exact solution incorrect.

 The mistake was that the student should have put a 30 where the 3 was, so it should look like this:

$$\begin{array}{r}
 \text{Exact } 237 = 200 + 30 + 7 \\
 \times 4 \quad \times \quad \times \\
 \hline
 208 \\
 120 \\
 + 800 \\
 \hline
 1128
 \end{array}$$

Anchor 3

Litho 0085

Total Content Points: 2 (4.OA.A.2, 4.NBT.A.1)

Total Practice Points: 2 (MP3, MP4)

The student accurately calculates the exact number of tickets Cayden sold in Part A to solve a word problem involving multiplicative comparison ($237 \times 4 = 948$) (4.OA.A.2). In Part B, the student identifies the digit 3 as a misrepresentation of the value 30, recognizing that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right (“The mistake was that the student should have put a 30 where the 3 was”) (4.NBT.A.1). The student uses incorrect place value understanding to improperly round 237 to 250 in Part A as part of the process of estimating the product of 237×4 ($250 \times 4 = 1000$) (no credit for 4.NBT.A.3). In Part B, the student adequately illustrates how the error in decomposition impacts the provided calculated solution through demonstrating the correct process (MP3). The student provides a multiplication equation in Part A that explains the repetition of the number of tickets for both the estimated ($250 \times 4 = 1000$) and exact ($237 \times 4 = 948$) number of tickets (MP4).

Total Awarded Points: 4 out of 5

2. Raffle Tickets Task

Alexa sold 237 raffle tickets. Cayden sold 4 times as many raffle tickets as Alexa. How many raffle tickets did Cayden sell?

- a. Use rounding to estimate the number of tickets that Cayden sold. Then find the exact number of tickets that Cayden sold. Use diagrams or equations to show how you found your answers.

Estimated Number of Tickets by Rounding	Exact Number of Tickets
<p>My estimate is about 940 or I could do more but I'm sticking with 940.</p>	$\begin{array}{r} 237 = \text{Alexa} \\ \times 4 \\ \hline 948 \end{array}$ <p>948 = Cayden</p> <p>948 compared to 237, 948 is bigger.</p>

b. Shown below is a student's work for the exact solution to the problem:

Exact $237 = 200 + 3 + 7$

$$\begin{array}{r} \times 4 \\ \hline 28 \\ 12 \\ + 800 \\ \hline 840 \end{array}$$

$$\begin{array}{r} 237 \\ \times 4 \\ \hline 840 \end{array}$$

Identify the mistake the student made in decomposing the number 237. Explain how this makes the student's exact solution incorrect.

✍ It is incorrect because it needs to be $200 + 30 + 7$.
Not $3, 30$.
He/She is incorrect.

Anchor 4

Litho 0098

Total Content Points: 2 (4.OA.A.2, 4.NBT.A.1)

Total Practice Points: 1 (MP4)

The student accurately calculates the exact number of tickets Cayden sold in Part A to solve a word problem involving multiplicative comparison ($237 \times 4 = 948$) (4.OA.A.2). In Part B, the student identifies the digit 3 as a misrepresentation of the value 30, recognizing that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right (“it needs to be $200 + 30 + 7$. not 3, 30”) (4.NBT.A.1). The student uses incorrect place value understanding to improperly round the calculated exact product of 948 to 940 in Part A (no credit for 4.NBT.A.3). In Part B, the student does not adequately explain how the error in decomposition impacts the provided calculated solution; the explanation merely points out the erroneous value and lacks any specifics involving the calculations (no credit for MP3). The student provides a multiplication equation in Part A that explains the repetition of the number of tickets for the exact number of tickets ($237 \times 4 = 948$) (MP4).

Total Awarded Points: 3 out of 5

2. Raffle Tickets Task

Alexa sold 237 raffle tickets. Cayden sold 4 times as many raffle tickets as Alexa. How many raffle tickets did Cayden sell?

- a. Use rounding to estimate the number of tickets that Cayden sold. Then find the exact number of tickets that Cayden sold. Use diagrams or equations to show how you found your answers.

Estimated Number of Tickets by Rounding	Exact Number of Tickets
$\begin{array}{r} 237 \\ \times 4 \\ \hline 800 \end{array}$	$\begin{array}{r} 237 \\ \times 4 \\ \hline 948 \end{array}$

- b. Shown below is a student's work for the exact solution to the problem:

Exact $237 = 200 + 3 + 7$

$$\begin{array}{r} \times 4 \quad \times \quad \times \\ \hline 28 \\ 12 \\ + 800 \\ \hline 840 \end{array}$$

Identify the mistake the student made in decomposing the number 237. Explain how this makes the student's exact solution incorrect.

The boy's mistake is that he didn't do 237×4 and you need to do that or you can't complete the problem.

Anchor 5

Litho 0096

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

Total Practice Points: 1 (MP4)

The student accurately calculates the exact number of tickets Cayden sold in Part A to solve a word problem involving multiplicative comparison ($237 \times 4 = 948$) (4.OA.A.2). In Part B, the student does not identify the digit 3 as a misrepresentation of the value 30, showing no recognition that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right (no credit for 4.NBT.A.1). The student uses place value understanding to round 237 to 200 in Part A as part of the process of estimating the product of 237×4 ($200 \times 4 = 800$) (4.NBT.A.3). In Part C, the student does not adequately explain how the error in decomposition impacts the provided calculated solution (no credit for MP3). The student provides a multiplication equation in Part A that explains the repetition of the number of tickets for both the estimated ($200 \times 4 = 800$) and exact ($237 \times 4 = 948$) number of tickets (MP4).

Total Awarded Points: 3 out of 5

2. Raffle Tickets Task

Allexa sold 237 raffle tickets. Cayden sold 4 times as many raffle tickets as Allexa. How many raffle tickets did Cayden sell?

- a. Use rounding to estimate the number of tickets that Cayden sold. Then find the exact number of tickets that Cayden sold. Use diagrams or equations to show how you found your answers.

Estimated Number of Tickets by Rounding	Exact Number of Tickets
<p>rounded 200 x 4</p> <hr/> <p>800</p> <p>$200 \times 4 = 800$</p>	<p>237 x 4</p> <hr/> <p>962</p> <p>$237 \times 4 = 962$</p>

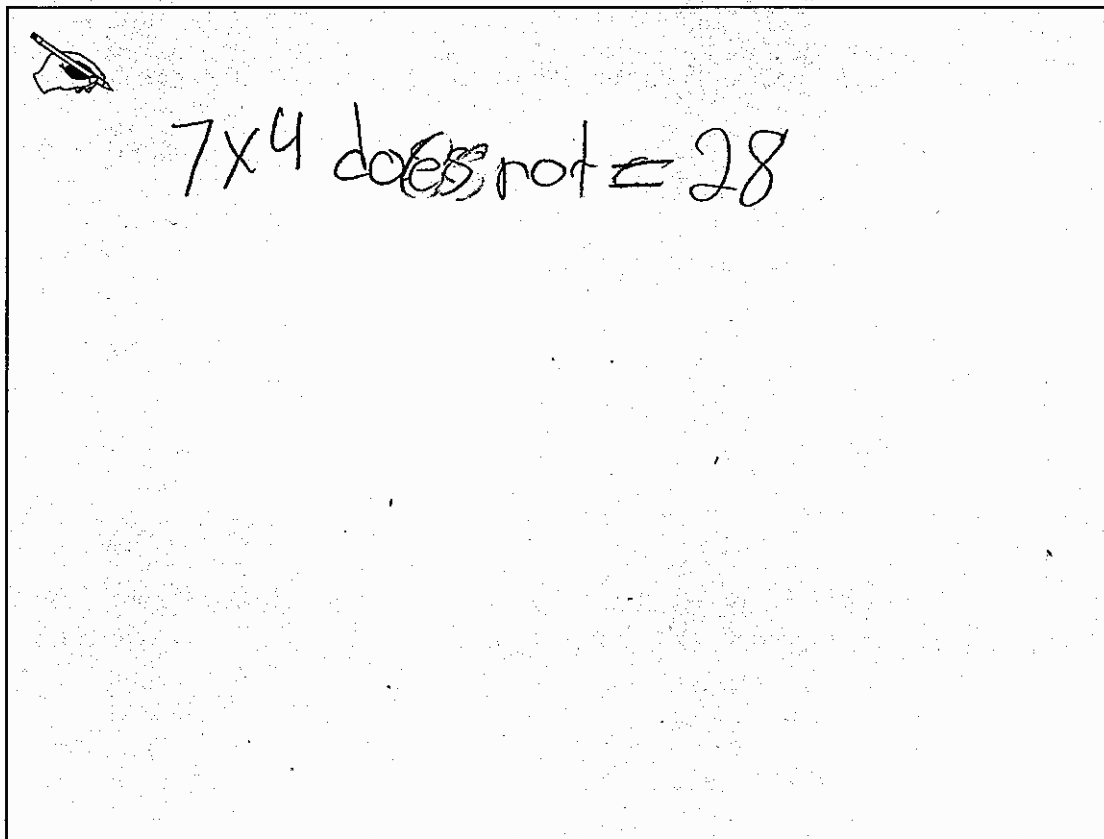
- b. Shown below is a student's work for the exact solution to the problem:

Exact $237 = 200 + 3 + 7$

$$\begin{array}{r} \times 4 \\ \hline 28 \\ 12 \\ + 800 \\ \hline 840 \end{array}$$

Arrows in the original image point from the '4' in the multiplier to the '3' and '7' in the decomposition, and from the '4' in the multiplier to the '4' in the first partial product '28'.

Identify the mistake the student made in decomposing the number 237. Explain how this makes the student's exact solution incorrect.



Anchor 6

Litho 0060

Total Content Points: 1 (4.NBT.A.3)

Total Practice Points: 1 (MP4)

The student incorrectly calculates the exact number of tickets Cayden sold in Part A to solve a word problem involving multiplicative comparison (no credit for 4.OA.A.2). In Part B, the student does not identify the digit 3 as a misrepresentation of the value 30, showing no recognition that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right (no credit for 4.NBT.A.1). The student uses place value understanding to round 237 to 200 in Part A as part of the process of estimating the product of 237×4 ($200 \times 4 = 840$), and receives credit despite reaching an incorrect product (4.NBT.A.3). In Part C, the student does not correctly explain how the error in decomposition impacts the provided calculated solution (no credit for MP3). The student provides a multiplication equation in Part A that explains the repetition of the number of tickets for both the estimated ($200 \times 4 = 840$) and exact ($237 \times 4 = 962$) number of tickets, and receives credit despite neither equation having a correct product (MP4).

Total Awarded Points: 2 out of 5

A-

Alexa sold 237 raffle tickets. Cayden sold 4 times as many raffle tickets as Alexa. How many raffle tickets did Cayden sell?

- a. Use rounding to estimate the number of tickets that Cayden sold. Then find the exact number of tickets that Cayden sold. Use diagrams or equations to show how you found your answers.

237 ↘

Estimated Number of Tickets by Rounding	Exact Number of Tickets
<p>900</p> <p>$237 \times 4 = 900$</p>	<p>948</p> <p>$4 \times 237 = 948$</p> <p>I try adding it and know that was not quite work</p>

b. Shown below is a student's work for the exact solution to the problem:

$$\begin{array}{r}
 \text{Exact } 237 = 200 + 3 + 7 \\
 \begin{array}{r}
 \times 4 \quad \times \\
 \hline
 28 \\
 12 \\
 + 800 \\
 \hline
 840
 \end{array}
 \end{array}$$

Identify the mistake the student made in decomposing the number 237. Explain how this makes the student's exact solution incorrect.

it should be like this²
 that 4 is supposed to be 412 that's the first mistake

$$\begin{array}{r}
 237 \\
 \times 28 \\
 + 800 \\
 \hline
 432
 \end{array}$$
 ANSWER

Anchor 7 Litho 0031

Total Content Points: 1 (4.OA.A.2)

Total Practice Points: 1 (MP4)

The student accurately calculates the exact number of tickets Cayden sold in Part A to solve a word problem involving multiplicative comparison ($237 \times 4 = 948$) (4.OA.A.2). In Part B, the student does not identify the digit 3 as a misrepresentation of the value 30, showing no recognition that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right (no credit for 4.NBT.A.1). The student does not use correct place value understanding to round 237 to any other value in Part A. While it could be inferred that the student was using 200 as part of the process of estimating the product of 237×4 given that a product of 800 was reached, it is necessary for the student to write the correct value in the equation (no credit for 4.NBT.A.3). In Part C, the student does not correctly explain how the error in decomposition impacts the provided calculated solution (no credit for MP3). The student provides a multiplication equation in Part A that explains the repetition of the number of tickets for the exact number of tickets ($4 \times 237 = 948$) (MP4).

Total Awarded Points: 2 out of 5

2. Raffle Tickets-Task

240
 Alexa sold 237 raffle tickets. Cayden sold 4 times as many raffle tickets as Alexa. How many raffle tickets did Cayden sell?

- a. Use rounding to estimate the number of tickets that Cayden sold. Then find the exact number of tickets that Cayden sold. Use diagrams or equations to show how you found your answers.


Estimated Number of Tickets by Rounding	Exact Number of Tickets
<p style="text-align: center;">240</p> <p>It is 240 because 7 is higher than 5 and so it rounds up to 240</p>	<p style="text-align: center;">948</p> <div style="text-align: right; margin-right: 50px;"> $\begin{array}{r} 237 \\ \times 4 \\ \hline 948 \end{array}$ </div> <p>It is 948 because if you put $237 \times 4 =$ on the calculator it says 948</p>

A-

- b. Shown below is a student's work for the exact solution to the problem:

$$\begin{array}{r} \text{Exact } 237 = 200 + 3 + 7 \\ \times 4 \quad \times \quad \times \\ \hline 28 \\ 12 \\ + 800 \\ \hline 840 \end{array}$$

Identify the mistake the student made in decomposing the number 237. Explain how this makes the student's exact solution incorrect.

 Hear she rounded to 200 and it is 240.

Anchor 8 Litho 0094

Total Content Points: 1 (4.OA.A.2)

Total Practice Points: 1 (MP4)

The student accurately calculates the exact number of tickets Cayden sold in Part A to solve a word problem involving multiplicative comparison ($237 \times 4 = 948$) (4.OA.A.2). In Part B, the student does not identify the digit 3 as a misrepresentation of the value 30, showing no recognition that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right (no credit for 4.NBT.A.1). The student uses place value understanding to round 237 to 240 in Part A, but does not do it as part of the process of estimating the product of 237×4 (no credit for 4.NBT.A.3). In Part B, the student does not correctly explain how the error in decomposition impacts the provided calculated solution (no credit for MP3). The student provides a multiplication equation in Part A for the exact number of tickets ($237 \times 4 = 948$), which explains the repetition of the number of tickets (MP4).

Total Awarded Points: 2 out of 5

2. Raffle Tickets Task

Alexa sold 237 raffle tickets. Cayden sold 4 times as many raffle tickets as Alexa. How many raffle tickets did Cayden sell?


- a. Use rounding to estimate the number of tickets that Cayden sold. Then find the exact number of tickets that Cayden sold. Use diagrams or equations to show how you found your answers.

Estimated Number of Tickets by Rounding	Exact Number of Tickets
<p>237 rounded by 10 = 240</p>	<p>240 tickets</p>

- b. Shown below is a student's work for the exact solution to the problem:

$$\begin{array}{r} \text{Exact } 237 = 200 + 3 + 7 \\ \times 4 \quad \times \quad \times \quad \times \\ \hline 28 \\ 12 \\ + 800 \\ \hline 840 \end{array}$$

Identify the mistake the student made in decomposing the number 237. Explain how this makes the student's exact solution incorrect.

 The student said $200 + 3 + 7$ but, it equals 210 instead of 237

Anchor 9

Litho 0214

Total Content Points: 0

Total Practice Points: 1 (MP3)

The student does not accurately calculate the exact number of tickets Cayden sold in Part A to solve a word problem involving multiplicative comparison (no credit for 4.OA.A.2). In Part B, the student does not identify the digit 3 as a misrepresentation of the value 30, showing no recognition that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right (no credit for 4.NBT.A.1). The student uses place value understanding to round 237 to 240 in Part A, but does not do it as part of the process of estimating the product of 237×4 (no credit for 4.NBT.A.3). In Part B, the student adequately explains how the error in decomposition impacts the provided calculated solution by stating “the student said $200 + 3 + 7$ but, it equals 210 instead of 237” (MP3). The student does not provide a diagram or a multiplication/repeated addition equation in Part A to explain the repetition of the number of tickets for either the estimated or exact number of tickets (no credit for MP4).

Total Awarded Points: 1 out of 5

2. Raffle Tickets Task

Alexa sold 237 raffle tickets. Cayden sold 4 times as many raffle tickets as Alexa. How many raffle tickets did Cayden sell?


- a. Use rounding to estimate the number of tickets that Cayden sold. Then find the exact number of tickets that Cayden sold. Use diagrams or equations to show how you found your answers.

Estimated Number of Tickets by Rounding	Exact Number of Tickets
950 tickets	948 tickets

- b. Shown below is a student's work for the exact solution to the problem:

Exact	$237 = 200 + 3 + 7$
$\times 4$	$\times \quad \underline{\quad}$
	28
	12
	<u>+ 800</u>
	840

Identify the mistake the student made in decomposing the number 237. Explain how this makes the student's exact solution incorrect.

 You do not add $200 + 3 + 7$ to $= 237$. It equals 210. You don't \times by 4 to get $\textcircled{840}$.

Anchor 10

Litho 0185

Total Content Points: 0

Total Practice Points: 1 (MP3)

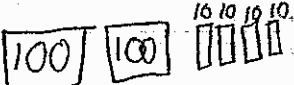
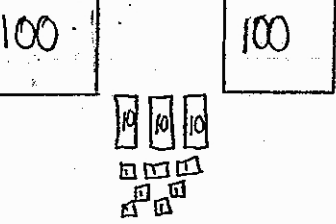
The student provides no calculations for the exact number of tickets Cayden sold in Part A, insufficiently demonstrating the ability to solve a word problem involving multiplicative comparison despite producing the correct answer (no credit for 4.OA.A.2). In Part B, the student does not identify the digit 3 as a misrepresentation of the value 30, showing no recognition that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right (no credit for 4.NBT.A.1). The student uses place value understanding to accurately round 948 to 950 in Part A, but the lack of any written calculations means that 948 cannot be considered a calculated exact product (no credit for 4.NBT.A.3). In Part B, the student adequately explains how the error in decomposition impacts the provided calculated solution by stating “You do not add $200 + 3 + 7$ to $= 237$. It equals 210” (MP3). The student does not provide a diagram or a multiplication/repeated addition equation in Part A to explain the repetition of the number of tickets for either the estimated or exact number of tickets (no credit for MP4).

Total Awarded Points: 1 out of 5

2. Raffle Tickets Task

Alexa sold 237 raffle tickets. Cayden sold 4 times as many raffle tickets as Alexa. How many raffle tickets did Cayden sell?

- a. Use rounding to estimate the number of tickets that Cayden sold. Then find the exact number of tickets that Cayden sold. Use diagrams or equations to show how you found your answers.

Estimated Number of Tickets by Rounding	Exact Number of Tickets
 <p>I rounded up to two hundred, and forty.</p>	 <p>The exact number is two hundred, thirty-Seven.</p>

b. Shown below is a student's work for the exact solution to the problem:

Exact $237 = 200 + 3 + 7$

$\times 4$	\times	4
		28
		12
		+ 800
		840

Identify the mistake the student made in decomposing the number 237. Explain how this makes the student's exact solution incorrect.

Exact $237 = 200 + 37$

$\times 4$	\times	4
		28
		120
		+ 800
		948

The student's problem was that the seven & the three were separated and the equation is $200 + 37 = 237$.

Total Content Points: 0

Total Practice Points: 0

The student does not accurately calculate the exact number of tickets Cayden sold in Part A to solve a word problem involving multiplicative comparison (no credit for 4.OA.A.2). In Part B, the student does not identify the digit 3 as a misrepresentation of the value 30, showing no recognition that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right (no credit for 4.NBT.A.1). The student uses place value understanding to round 237 to 240 in Part A, but does not do it as part of the process of estimating the product of 237×4 , and the lack of calculations means it cannot be considered as a rounding of a calculated exact product (no credit for 4.NBT.A.3). In Part B, the student does not correctly explain how the error in decomposition impacts the provided calculated solution. The student's contention that the error is because "the seven & the three were seaperated" is not accurate. The separation of 3 and 7 is part of the process of finding the solution; the error is that they were separated incorrectly (no credit for MP3). The student does not provide a diagram or a multiplication/repeated addition equation in Part A to explain the repetition of the number of tickets for either the estimated or exact number of tickets (no credit for MP4).

Total Awarded Points: 0 out of 5