

Item Number	Answer Key	Evidence Statement Key
1.	D	4.G.1
2.	D	4.Int.3
3.	1,820	4.MD.2-1
4.	A	4.MD.5
5.	C	4.MD.6
6.	A, B, D	4.NBT.3
7.	$\begin{array}{r} 5,980 \\ + 3,806 \\ \hline \end{array}$ <div style="display: flex; justify-content: space-around; margin-top: 5px;"> 9, 7 8 6 </div>	4.NBT.4-1
8.	2,011	4.NBT.4-2
9.	D	4.NBT.5-1
10.	$3,245 \div 5 = $ 649 Remainder: 0	4.NBT.6-2
11.	D	4.NBT.Int.1
12.	The number of pictures Brandon took of animals is more than the number of pictures he took of people. The number of pictures Brandon took of animals is the same as the number of pictures he took of buildings.	4.NF.2-1
13.	Fraction Form $\frac{9}{100}$ $\frac{8}{10}$ Decimal Form 0.09 0.8	4.NF.6

14.	D	4.OA.1-1															
15.	A	4.OA.1-2															
16.	36	4.OA.2															
17.	D	4.OA.3-1															
18.	A, E	4.OA.4-4															
19.	27	4.OA.5															
20.	Part A: D Part B: B	4.Int.8															
21.	Part A: 1,200 Part B: D	4.NBT.Int.1															
22.	Part A: B Part B: C	4.NF.3d															
23.	<p>Part A:</p> <table border="1"> <thead> <tr> <th>Fraction</th> <th>Less than $\frac{7}{10}$</th> <th>Greater than $\frac{7}{10}$</th> </tr> </thead> <tbody> <tr> <td>$\frac{3}{5}$</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>$\frac{1}{2}$</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>$\frac{4}{5}$</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>$\frac{50}{100}$</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table> <p>Part B:</p> <p>$\frac{3}{5}$ <input type="text" value=">"/> $\frac{1}{2}$</p> <p>$\frac{1}{2}$ <input type="text" value="="/> $\frac{50}{100}$</p> <p>$\frac{4}{5}$ <input type="text" value=">"/> $\frac{50}{100}$</p>	Fraction	Less than $\frac{7}{10}$	Greater than $\frac{7}{10}$	$\frac{3}{5}$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	$\frac{1}{2}$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	$\frac{4}{5}$	<input type="checkbox"/>	<input checked="" type="checkbox"/>	$\frac{50}{100}$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4.NF.A.Int.1
Fraction	Less than $\frac{7}{10}$	Greater than $\frac{7}{10}$															
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$\frac{4}{5}$	<input type="checkbox"/>	<input checked="" type="checkbox"/>															
$\frac{50}{100}$	<input checked="" type="checkbox"/>	<input type="checkbox"/>															
24.	Part A: A, C, E Part B: D, E	4.NF.Int.1															
25.	Part A: 60 Part B: <input type="text" value="76"/> <hr/> <input type="text" value="100"/>	4.NF.Int.2															
26.	Part A: See Rubric Part B: $8 \times (5 + 600 + 3,000)$ or equivalent Part C: 28,840	4.C.1-1															

27.	See Rubric	4.C.5-4
28.	See Rubric	4.D.1
29.	Part A: $\text{Year 2 } \boxed{2} \times \boxed{10,000} + \boxed{9} \times \boxed{1,000} + \boxed{7} \times \boxed{10}$ Part B: See Rubric	4.D.1
30.	Part A: See Rubric Part B: See Rubric	4.D.2

#26 Rubric Part A

Score	Description
1	Student response includes the following element. <ul style="list-style-type: none"> Reasoning component = 1 point <ul style="list-style-type: none"> The student uses an understanding of the distributive property to explain why the expressions can be used to find the product. Sample Student Response: "Yes it will work because $3,000 + 600 + 5$ is equal to $3,605$, so when you add them and multiply by 8 they will give the same answer." Note: <ul style="list-style-type: none"> A variety of explanations are possible as long as the student shows an understanding of why the expression can be used to solve the problem, credit should be given.
0	Student response is incorrect or irrelevant.

#26 Rubric Part B (Machine Scored)

Score	Description
1	Student response includes the following element. <ul style="list-style-type: none"> Reasoning component = 1 point <ul style="list-style-type: none"> The student writes an expression different than the expression in Part A that can be used to solve the multiplication problem.

	<p>Sample Student Response:</p> $(8 \times 3,000) + (8 \times 600) + (8 \times 5) \text{ (uses the distributive property)}$ <p>OR</p> $8 \times (5 + 600 + 3,000) \text{ (uses the commutative property).}$ <p>Notes:</p> <ul style="list-style-type: none"> • A variety of expressions are valid. As long as the student uses a valid method to solve the problem, credit should be given. • If a computation mistake is made, credit cannot be given for computation, but credit should be given for a valid expression.
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0	Student response is incorrect or irrelevant.
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#26 Rubric Part C (Machine Scored)	
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Score	Description
1	<p>Student response includes the following 2 elements.</p> <ul style="list-style-type: none"> • Computation component = 1 point <ul style="list-style-type: none"> ◦ Correct answer, 28,840. <p>Sample Student Response:</p> $28840 \text{ or } 28,840$
0	Student response is incorrect or irrelevant.

#27 Rubric	
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Score	Description
3	<p>Student response includes the following 3 elements.</p> <ul style="list-style-type: none"> • Reasoning component = 1 point <ul style="list-style-type: none"> ◦ The student explains the error in Simone’s reasoning. • Computation component = 1 point <ul style="list-style-type: none"> ◦ A correct equivalent fraction. • Reasoning component = 1 point <ul style="list-style-type: none"> ◦ The student describes another way to convert a mixed number to a fraction. <p>Sample Student Response:</p>

	<p>“Simone made an error when she converted 4 to a fraction. She should have multiplied 4×3 before she put that over a denominator of 3.”</p> $4\frac{1}{3} = \frac{4 \times 3}{3} + \frac{1}{3}$ $= \frac{12}{3} + \frac{1}{3}$ $= \frac{13}{3}$ <p>Another way I can write the equivalent fraction is to write 4 as the sum of $1 + 1 + 1 + 1$ and then write each 1 as the sum of $\frac{1}{3} + \frac{1}{3} + \frac{1}{3}$.</p> $4\frac{1}{3} = 1 + 1 + 1 + 1 + \frac{1}{3}$ $= \left(\frac{1}{3} + \frac{1}{3} + \frac{1}{3}\right) + \left(\frac{1}{3} + \frac{1}{3} + \frac{1}{3}\right) + \left(\frac{1}{3} + \frac{1}{3} + \frac{1}{3}\right) + \left(\frac{1}{3} + \frac{1}{3} + \frac{1}{3}\right) + \frac{1}{3}$ $= \frac{13}{3}$ <p>Or other valid equivalent explanations.</p>
2	Student response includes 2 of the above elements.
1	Student response includes 1 of the above elements.
0	Student response is incorrect or irrelevant.

#28 Rubric

Score	Description
3	<p>Student response includes the following 3 elements.</p> <ul style="list-style-type: none"> • Computation component = 1 point <ul style="list-style-type: none"> ○ The correct total number of fish given away, 35. • Modeling component = 1 point <ul style="list-style-type: none"> ○ The correct number of customers and valid explanation of how many more customers would be needed to give away 1 more goldfish, 2 customers. • Modeling component = 1 point <ul style="list-style-type: none"> ○ Valid work shown.

	<p>Sample Student Response:</p> <p>First, I found the total number of goldfish that were given away. I divided the number of customers who came to the store on Saturday by 6.</p> $130 \div 6 = 21 R4$ <p>The owner gave away a total of 21 goldfish.</p> <p>Next, I found the number of clownfish that were given away. I divided the number of customers who came to the store on Saturday by 9.</p> $130 \div 9 = 14 R4$ <p>The owner gave away a total of 14 clownfish.</p> <p>To find the total number of fish given away at the store on Saturday, I added.</p> $21 + 14 = 35$ <p>The owner gave away a total of 35 fish.</p> <p>In order for the owner to have given away 1 more goldfish, 2 more customers would have had to come to the store on Saturday. I know that with 130 customers, he gave away 21 goldfish.</p> $130 \div 6 = 21 R4$ <p>The remainder tells me that the last 4 customers didn't get a goldfish, so if 2 more customers had come, one more fish would have been given away.</p> <p>Accept other valid responses.</p>
2	Student response includes 2 of the above elements.
1	Student response includes 1 of the above elements.
0	Student response is incorrect or irrelevant.

#29 Rubric Part A (Machine Scored)

Score	Description
1	Student response includes the following element.

	<ul style="list-style-type: none"> • Modeling component = 1 point <ul style="list-style-type: none"> ◦ This part of the item is machine scored. The student uses expanded notation to represent the amount as 10 times the number of baskets sold in Year 2. <p>Sample Student Response:</p> <p style="text-align: center;">Amount in Year 2: $2 \times 10,000 + 9 \times 1,000 + 7 \times 10$</p> <p>Note:</p> <ul style="list-style-type: none"> • A variety of expressions are valid; if the student uses a valid method to show expanded form, credit should be given.
0	Student response is incorrect or irrelevant.
#29 Rubric Part B	
Score	Description
2	<p>Student response includes the following 2 elements.</p> <ul style="list-style-type: none"> • Modeling component = 1 point <ul style="list-style-type: none"> ◦ The student explains how to find the amount made in year 3. • Computation component = 1 point <ul style="list-style-type: none"> ◦ Correct response, 48,600. <p>Sample Student Response:</p> <p>“To find the amount earned in Year 3, I multiplied 972 by 10 to get the amount earned in Year 1. Then I multiplied that result by 5 to get \$48,600.</p> <p>Notes:</p> <ul style="list-style-type: none"> • A variety of explanations are valid. As long as the student uses a valid method to solve the problem, credit should be given. • If a computation mistake is made, credit cannot be given for computation, but credit should be given for a valid explanation of how to solve the problem.
1	Student response includes 1 of the above elements.
0	Student response is incorrect or irrelevant.

#30 Rubric Part A

Score	Description
3	<p>Student response includes the following 3 elements.</p> <ul style="list-style-type: none"> • Modeling component = 1 point <ul style="list-style-type: none"> ○ The student explains or shows the process for finding the total number of miles Carl rides on Friday. • Modeling component = 1 point <ul style="list-style-type: none"> ○ The student explains or shows the process for finding the total number of miles Carl rides in the three days. • Computation component = 1 point <ul style="list-style-type: none"> ○ The student provides a response of 30 miles. <p>Sample Student Response:</p> <p>“Carl rides twice as far Friday as he does on Thursday. $7 \times 2 = 14$”</p> <p>“Carl rides $7 + 14 + 9 = 30$ miles in all”</p> <p>Notes:</p> <ul style="list-style-type: none"> • A variety of explanations are possible. As long as the student explains how to find the total number of miles Carl rides on Friday and in the three days, credit should be given. • If a computation mistake is made, credit cannot be given for computation but can be given for a valid explanation.
2	Student response includes 2 of the above elements.
1	Student response includes 1 of the above elements.
0	Student response is incorrect or irrelevant.

#30 Rubric Part B

Score	Description
3	<p>Student response includes the following 3 elements.</p> <ul style="list-style-type: none"> • Modeling component = 1 point <ul style="list-style-type: none"> ○ The student explains or shows the process for finding the number of additional miles Carl must ride. • Modeling component = 1 point <ul style="list-style-type: none"> ○ The student explains or shows the process for finding the number of additional miles Carl should ride each day. • Computation component = 1 point <ul style="list-style-type: none"> ○ The student provides a response of 2 additional miles each day.

	<p>Sample Student Response:</p> <p>"For Carl to ride 36 miles in the next 3 days, he needs to ride $36-30=6$ more miles."</p> <p>"For Carl to ride 6 more miles in 3 days, he must ride $6\div 3=2$ miles farther each day."</p> <p>Notes:</p> <ul style="list-style-type: none"> • A variety of explanations are valid. As long as the student uses a valid method to solve the problem, credit should be given. • If a computation mistake is made, credit cannot be given for computation, but credit should be given for a valid explanation of how to solve the problem. • If a mistake was made in Part A but carried through Part B correctly, credit can be given for Part B.
2	Student response includes 2 of the above elements.
1	Student response includes 1 of the above elements.
0	Student response is incorrect or irrelevant.