

Name \_\_\_\_\_

Date \_\_\_\_\_

1. Solve each problem with a written strategy such as a tape diagram, a number bond, the arrow way, the vertical form, or chips on a place value chart.

a. $220 + 30 =$ _____	b. $200 + 380 =$ _____	c. $450 + 210 =$ _____
d. $490 + 12 =$ _____	e. _____ $= 380 + 220$	f. $750 - 590 =$ _____

2. Use the arrow way to solve.

a. $342 \xrightarrow{+100} \underline{\hspace{2cm}} \xrightarrow{+ \underline{\hspace{1cm}}} 542$	b. $600 \xrightarrow{- \underline{\hspace{1cm}}} 500 \xrightarrow{- \underline{\hspace{1cm}}} 490$	c. $\underline{\hspace{2cm}} \xrightarrow{+100} \underline{\hspace{2cm}} \xrightarrow{+10} 768$
d. $542 + 207 =$ _____	e. $430 + 361 =$ _____	f. $660 - 190 =$ _____

3. Solve each by drawing a model of a place value chart with chips and using the vertical form.

<p>a.</p> $328 + 259 = \underline{\hspace{2cm}}$	<p>b.</p> $575 + 345 = \underline{\hspace{2cm}}$
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Circle *True* or *False* for each number sentence. Explain your thinking using pictures, words, or numbers.

<p>c.</p> $466 + 244 = 600 + 100$          <p style="text-align: center;"><i>True / False</i></p>	<p>d.</p> $690 + 179 = 700 + 169$          <p style="text-align: center;"><i>True / False</i></p>
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e. $398 + 6 = 400 + 5$  <i>True / False</i>	f. $724 - 298 = 722 - 300$  <i>True / False</i>
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4. Solve each problem with two written strategies such as a tape diagram, a number bond, the arrow way, the vertical form, or chips on a place value chart.

a. $299 + 436 = \underline{\hspace{2cm}}$	
b. $470 + 390 = \underline{\hspace{2cm}}$	

c.  $268 + 122 = \underline{\hspace{2cm}}$

d.  $330 - 190 = \underline{\hspace{2cm}}$

## Mid-Module Assessment Task Standard Addressed

## Topics A–B

Use place value understanding and properties of operations to add and subtract.

- 2.NBT.7** Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
- 2.NBT.8** Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
- 2.NBT.9** Explain why addition and subtraction strategies work, using place value and the properties of operations. (Explanations may be supported by drawings or objects.)

## Evaluating Student Learning Outcomes

A Progression Toward Mastery is provided to describe steps that illuminate the gradually increasing understandings that students develop *on their way to proficiency*. In this chart, this progress is presented from left (Step 1) to right (Step 4). The learning goal for students is to achieve Step 4 mastery. These steps are meant to help teachers and students identify and celebrate what the students CAN do now and what they need to work on next.

## A Progression Toward Mastery

Assessment Task Item and Standards Assessed	STEP 1 Little evidence of reasoning without a correct answer.  (1 Point)	STEP 2 Evidence of some reasoning without a correct answer.  (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer.  (4 Points)
<b>1</b>  <b>2.NBT.7</b> <b>2.NBT.8</b>	The student provides one to two correct answers with correct strategies <i>or</i> provides up to six correct answers with no suggested strategies.	The student answers three to four parts correctly by using suggested strategies.	The student solves five out of six parts correctly by using suggested strategies.	The student correctly shows a strategy to solve: a. 250 b. 580 c. 660 d. 502 e. 600 f. 160
<b>2</b>  <b>2.NBT.7</b> <b>2.NBT.8</b>	The student solves one to two out of six parts correctly by using the arrow way <i>or</i> solves all six parts correctly, but does not use the arrow way.	The student solves three to four out of six parts correctly by using the arrow way <i>or</i> provides a correct answer for up to six parts, but only uses the arrow way for three parts.	The student solves five out of six parts correctly by using the arrow way.	The student correctly models the arrow way and solves to find: a. 442, +100 b. -100, -10 c. 658, 758 d. 749 e. 791 f. 470



<p><b>3</b></p> <p><b>2.NBT.7</b> <b>2.NBT.9</b></p>	<p>The student solves one or two out of six parts correctly with or without a chip model and with or without providing a written explanation.</p>	<p>The student attempts to use a chip model to answer Parts (a) and (b), but arrives at an incorrect answer, <i>and</i> the student shows no explanation for Parts (c), (d), (e), and (f), but correctly answers true or false. <i>Or</i> the student provides some explanation for Parts (c), (d), (e), and (f), but the explanation is incorrect.</p>	<p>The student solves five out of six parts correctly by using a chip model for Parts (a) and (b) or explaining using pictures, words, or numbers for Parts (c), (d), (e), and (f).</p>	<p>The student correctly:</p> <ul style="list-style-type: none"> <li>▪ Models with place value chips and the vertical form to solve:               <ul style="list-style-type: none"> <li>a. 587</li> <li>b. 920</li> </ul> </li> <li>▪ Explains using pictures, words, or numbers to solve:               <ul style="list-style-type: none"> <li>c. False</li> <li>d. True</li> <li>e. False</li> <li>f. False</li> </ul> </li> </ul>
<p><b>4</b></p> <p><b>2.NBT.7</b> <b>2.NBT.8</b> <b>2.NBT.9</b></p>	<p>The student solves one problem correctly with or without a written strategy.</p>	<p>The student solves two problems correctly by using a strategy correctly, <i>or</i> the student solves two or more problems correctly without any strategies shown.</p>	<p>The student solves all four problems correctly and shows six to seven correct strategies, <i>or</i> the student solves three out of the four problems correctly with six correct strategies.</p>	<p>The student correctly uses two different strategies to solve:</p> <ul style="list-style-type: none"> <li>a. 735</li> <li>b. 860</li> <li>c. 390</li> <li>d. 140</li> </ul>

Name Henry

Date \_\_\_\_\_

1. Solve each problem with a written strategy such as a tape diagram, a number bond, the arrow way, the vertical form, or chips on a place value chart.

<p>a. <math>220 + 30 = \underline{250}</math></p> <p><math>\begin{array}{c} \wedge \\ 200 \quad 20 \end{array}</math></p> <p><math>20 + 30 = 50</math></p> <p><math>200 + 50 = 250</math></p>	<p>b. <math>200 + 380 = \underline{580}</math></p> <p><math>200 \xrightarrow{+300} 500 \xrightarrow{+80} 580</math></p>	<p>c. <math>450 + 210 = \underline{660}</math></p> <p><math>\begin{array}{c} \wedge \\ 200 \quad 10 \end{array}</math></p> <p><math>450 \xrightarrow{+200} 650 \xrightarrow{+10} 660</math></p>
<p>d. <math>490 + 12 = \underline{502}</math></p> <p><math>\begin{array}{c} \wedge \\ 10 \quad 2 \end{array}</math></p> <p><math>500 + 2 = 502</math></p>	<p>e. <math>\underline{600} = 380 + 220</math></p> <p><math>\begin{array}{r} 380 \\ + 220 \\ \hline 600 \end{array}</math></p>	<p>f. <math>750 - 590 = \underline{160}</math></p> <p><math>\begin{array}{ c } \hline +10 \quad 750 \\ \hline \end{array}</math></p> <p><math>\begin{array}{ c } \hline +10 \quad 590 \\ \hline \end{array}</math></p> <p><math>760 - 600 = 160</math></p>

2. Use the arrow way to solve.

<p>a.</p> <p><math>342 \xrightarrow{+100} \underline{442} \xrightarrow{+100} 542</math></p>	<p>b.</p> <p><math>600 \xrightarrow{-100} 500 \xrightarrow{-10} 490</math></p>	<p>c.</p> <p><math>658 \xrightarrow{+100} \underline{758} \xrightarrow{+10} 768</math></p>
<p>d.</p> <p><math>542 + 207 = \underline{749}</math></p> <p><math>542 \xrightarrow{+200} 742 \xrightarrow{+7} 749</math></p>	<p>e.</p> <p><math>430 + 361 = \underline{791}</math></p> <p><math>430 \xrightarrow{+300} 730 \xrightarrow{+60} 790 \xrightarrow{+1} 791</math></p>	<p>f.</p> <p><math>660 - 190 = \underline{470}</math></p> <p><math>660 \xrightarrow{-100} 560 \xrightarrow{-60} 500 \xrightarrow{-30} 470</math></p>



3. Solve each by drawing a model of a place value chart with chips and using the vertical form.

<p>a.</p> $328 + 259 = \underline{587}$ <div style="display: flex; align-items: center; justify-content: center;"> <table border="1" style="border-collapse: collapse; text-align: center; margin-right: 20px;"> <thead> <tr> <th style="padding: 5px;">H</th> <th style="padding: 5px;">T</th> <th style="padding: 5px;">O</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">...</td> <td style="padding: 5px;">..</td> <td style="padding: 5px;">.....</td> </tr> <tr> <td style="padding: 5px;">..</td> <td style="padding: 5px;">.....</td> <td style="padding: 5px;">.....</td> </tr> </tbody> </table> <div style="text-align: right;"> <math display="block">\begin{array}{r} 328 \\ + 259 \\ \hline 587 \end{array}</math> </div> </div>	H	T	O	...	..	.....	..	.....	.....	<p>b.</p> $575 + 345 = \underline{920}$ <div style="display: flex; align-items: center; justify-content: center;"> <table border="1" style="border-collapse: collapse; text-align: center; margin-right: 20px;"> <thead> <tr> <th style="padding: 5px;">H</th> <th style="padding: 5px;">T</th> <th style="padding: 5px;">O</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">.....</td> <td style="padding: 5px;">.....</td> <td style="padding: 5px;">.....</td> </tr> <tr> <td style="padding: 5px;">.....</td> <td style="padding: 5px;">.....</td> <td style="padding: 5px;">.....</td> </tr> </tbody> </table> <div style="text-align: right;"> <math display="block">\begin{array}{r} 575 \\ + 345 \\ \hline 920 \end{array}</math> </div> </div>	H	T	O	.....	.....	.....	.....	.....	.....
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Circle **True** or **False** for each number sentence. Explain your thinking using pictures, words, or numbers.

<p>c.</p> $466 + 244 = 600 + 100$ <div style="display: flex; align-items: center; justify-content: center; margin-top: 10px;"> <div style="text-align: center;"> <math display="block">\begin{array}{c} \wedge \quad \wedge \\ 400 \quad 66 \quad 44 \quad 200 \end{array}</math> <math display="block">400 + 100 + 200 = 700</math> </div> <div style="margin-left: 20px;"> <math display="block">600 + 100 = 700</math> </div> </div> <div style="text-align: center; margin-top: 20px;"> <p>True / <u>False</u></p> </div>	<p>d.</p> $690 + 179 = 700 + 169$ <div style="display: flex; align-items: center; justify-content: center; margin-top: 10px;"> <div style="text-align: center;"> <math display="block">\begin{array}{c} 690 + 179 \\ 10 \quad \wedge \quad 169 \end{array}</math> <math display="block">700 + 169</math> </div> </div> <div style="text-align: center; margin-top: 20px;"> <p><u>True</u> / False</p> </div>
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e.	f.
$398 + 6 = 400 + 5$ $\begin{array}{r} 398 + 6 \\ \phantom{00} 2 \uparrow 4 \\ 400 + 4 \end{array}$	$724 - 298 = 722 - 300$ $724 - 298$ $726 - 300 = 426$ $722 - 300 = 422$
True / <u>False</u>	True / <u>False</u>

4. Solve each problem with two written strategies such as a tape diagram, a number bond, the arrow way, the vertical form, or chips on a place value chart.

a.	
$299 + 436 = \underline{735}$ $\begin{array}{r} 1 \uparrow 435 \\ 300 + 435 = 735 \end{array}$	$\begin{array}{r} 299 \\ + 436 \\ \hline 735 \end{array}$
b.	
$470 + 390 = \underline{860}$ $\begin{array}{r} 470 + 390 \\ \phantom{00} 10 \uparrow \\ 460 \phantom{00} \end{array}$ $460 + 400 = 860$	$390 \xrightarrow{+10} 400 \xrightarrow{+60} 460 \xrightarrow{+400} 860$

<p>c. <math>268 + 122 = \underline{390}</math></p> <p><math>268 \xrightarrow{+2} 270 \xrightarrow{+120} 390</math></p>	<div style="display: flex; align-items: center;"><div style="margin-right: 20px;"><math display="block">\begin{array}{r} 268 \\ + 122 \\ \hline 390 \end{array}</math></div><div><table border="1" style="border-collapse: collapse; text-align: center;"><thead><tr><th style="padding: 5px;">100's</th><th style="padding: 5px;">10's</th><th style="padding: 5px;">1's</th></tr></thead><tbody><tr><td style="padding: 5px;">..</td><td style="padding: 5px;">....</td><td style="padding: 5px;">....</td></tr><tr><td style="padding: 5px;">.</td><td style="padding: 5px;">..</td><td style="padding: 5px;">..</td></tr></tbody></table><div style="border: 1px solid black; width: 60px; height: 60px; position: relative; margin-left: 10px; top: -40px;"><div style="position: absolute; top: 0; right: 0; width: 100%; height: 100%; background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px);"></div></div></div></div>	100's	10's	1's	..	....	....	.	..	..
100's	10's	1's								
..	....	....								
.	..	..								
<p>d. <math>330 - 190 = \underline{140}</math></p> <div style="margin-bottom: 10px;"><div style="border: 1px solid black; padding: 2px 5px; display: inline-block;">+10</div> <div style="border: 1px solid black; padding: 2px 10px; display: inline-block;">330</div></div> <div style="margin-bottom: 10px;"><div style="border: 1px solid black; padding: 2px 5px; display: inline-block;">+10</div> <div style="border: 1px solid black; padding: 2px 10px; display: inline-block;">190</div></div> <p><math>340 - 200 = 140</math></p>	<p><math>330 \xrightarrow{-100} 230 \xrightarrow{-30} 200</math></p> <p><math>200 \xrightarrow{-60} \boxed{140}</math></p>									