

Name: _____

Date: _____

CHAPTER
14

Mental Math Strategies

To the Teacher: Read directions aloud for children who need assistance. Use differentiation to assess children's understanding of Problems 1 and 2.

1. Add mentally.

$$10 + 26 = ? \text{ } 36$$

Write or draw to explain your answer.

Answers vary. Accept all reasonable answers.

Example: I added 1 ten to 2 tens to make 3 tens, and then I added the 6 ones to 3 tens to make 36.

2. Subtract mentally.

$$31 - 10 = ? \text{ 21}$$

Write or draw to explain your answer.

Answers vary. Accept all reasonable answers.

Example: I subtracted 1 ten from 3 tens to give 2 tens, and then I added 1 one to 2 tens to make 21.

3. Solve mentally using a number bond.

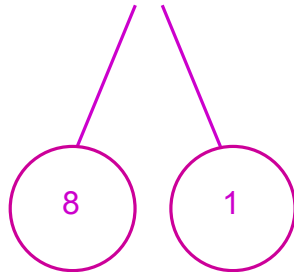
$$8 + 9 = ? \quad 17$$

Draw the number bond you used.

Answers vary. Accept all reasonable answers.

Example:

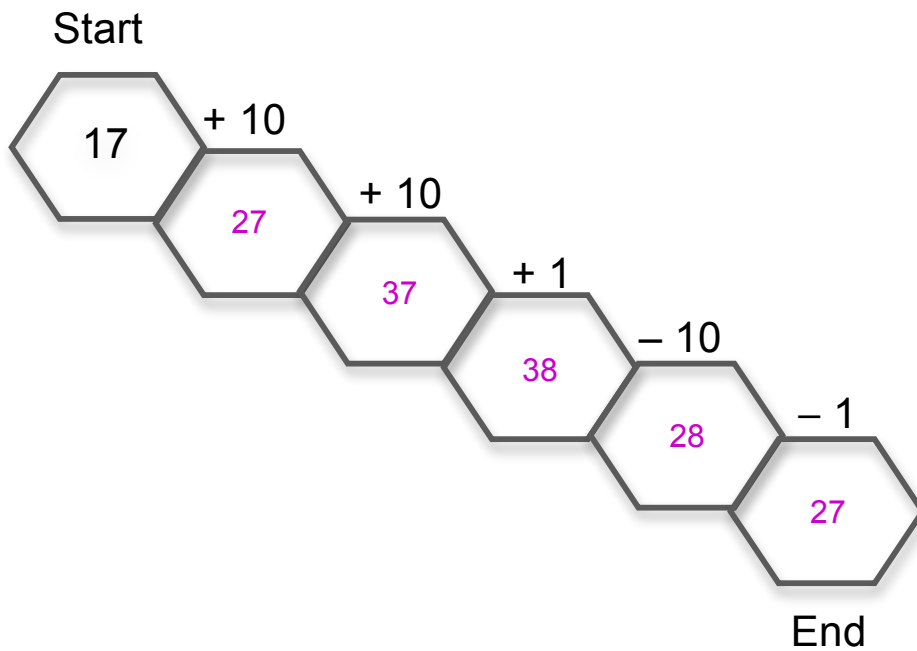
$$8 + 9 = 8 + 8 + 1$$




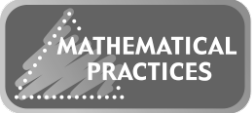
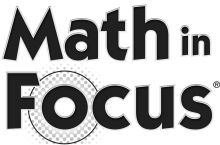
$$8 + 8 = 16$$

$$16 + 1 = 17$$

4. Follow the path.
Add or subtract mentally.



Task Specifications

 <p>Common Core State Standards</p>	<p>1.NBT.4. Add within 100, including adding a two-digit number and a one-digit number, and adding a two digit number and a multiple of 10, 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 and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.</p> <p>1.NBT.5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.</p> <p>1.OA.3. Apply properties of operations as strategies to add and subtract.</p> <p>1.OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten; decomposing a number leading to a ten; using the relationship between addition and subtraction; and creating equivalent but easier or known sums.</p>
 <p>Standards for Mathematical Practice</p>	<p>MP1: Make sense of problems and persevere in solving them. Students will examine the task, make sense of what is being asked for, and find an entry point or way to start the solving process.</p> <p>MP3: Construct viable arguments and critique the reasoning of others. Students will clearly express and explain their mathematical thinking using pictorial representations.</p> <p>MP6: Attend to precision. Students attend to precision in their communications and calculations. They will need to pay attention to details as they solve Problem 4 in particular.</p> <p>MP8: Look for and express regularity in repeated reasoning. Students are to show that they can look for general methods and shortcuts among repeated calculations.</p>
 <p>Math in Focus® Alignment</p>	<p>Students will work on this performance task after completing Chapter 14 in Grade 1 Student Book B, in which students extend and apply their understanding of mental math strategies to add 1- and 2-digit numbers. Questions similar to Problems 1–4 are included in Chapter 14.</p>

Scoring Guide

Problem		Point(s)
1.	The child: <ul style="list-style-type: none">• writes 36 as the answer.• accurately conveys the mental strategy he or she used through words or drawings.	1 1
2.	The child: <ul style="list-style-type: none">• writes 21 as the answer.• accurately conveys the mental strategy he or she used through words or drawings.	1 1
3.	The child: <ul style="list-style-type: none">• writes 17 as the answer.• accurately depicts how he or she solved the mental addition problem with the use of a number bond.	1 1
4.	The child: <ul style="list-style-type: none">• fills the missing spaces within the hexagons with the numbers, 27, 37, 38, 28, and 27.	2
Total Points		8

Rubric

Level	Point(s)	Child Proficiency
4	7–8	The child demonstrates: <ul style="list-style-type: none">• complete conceptual understanding• procedural fluency• excellent explanation of thinking
3	5–6.5	The child demonstrates: <ul style="list-style-type: none">• substantial understanding of concepts• efficient use of procedures• adequate explanation
2	3–4.5	The child demonstrates: <ul style="list-style-type: none">• some understanding of concepts• inconsistent use of procedures• meager or incomplete explanation
1	1–2.5	The child demonstrates: <ul style="list-style-type: none">• lack of content understanding• rare use of effective strategies• little evidence of reasoning