

# Place Value and Expanded Form

NCTM Standards 1, 2, 6, 7, 8, 9, 10

Write the number in expanded form.

Hundred-thousands place	Ten-thousands place	Thousands place	Hundreds place	Tens place	Ones place
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1	160,572	<input type="text" value="100,000"/>	+	<input type="text" value="60,000"/>	+	<input type="text" value="0"/>	+	<input type="text" value="500"/>	+	<input type="text"/>	+	<input type="text"/>
2	279,005	<input type="text"/>	+	<input type="text"/>	+	<input type="text"/>	+	<input type="text"/>	+	<input type="text"/>	+	<input type="text"/>
3	56,921	<input type="text"/>	+	<input type="text"/>	+	<input type="text"/>	+	<input type="text"/>	+	<input type="text"/>	+	<input type="text"/>
4	395,066	<input type="text"/>	+	<input type="text"/>	+	<input type="text"/>	+	<input type="text"/>	+	<input type="text"/>	+	<input type="text"/>

Match the number with its description.

- |   |         |   |
|---|---------|---|
| 5 | 307,865 | My ten-thousands digit is even but is not 0.                              |
| 6 | 711,000 | My hundreds digit $>$ my tens digit, and my tens digit $>$ my ones digit. |
| 7 | 521,804 | The sum of my digits is 11.   |
| 8 | 632,790 | My ten-thousands digit = my thousands digit.                              |
| 9 | 13,061  | I'm a six-digit number, and my hundred-thousands digit is even.           |

**Write a number that matches the description.**

10  $300,000 + 60,000 + 10,000 + 500 + 70 + 1$

11  $6,000 + 200 + 9$

12  $40,000 + 2,000 + 50 + 7$

13 The thousands, hundreds, tens, and ones digits are all odd.

14 The hundred-thousands digit  $<$  the ones digit.

15 The ten-thousands digit = the ones digit.

16 The hundreds digit is half the tens digit.

17 The sum of my digits is an even number.

18 The ones digit is 3 times the thousands digit.

19 The hundred-thousands digit is the sum of the thousands, hundreds, tens, and ones digits.

20 **Challenge** I'm a two-digit odd number.  
My tens digit is double my ones digit.  
I'm a multiple of 7. I'm not 21.

Who am I?

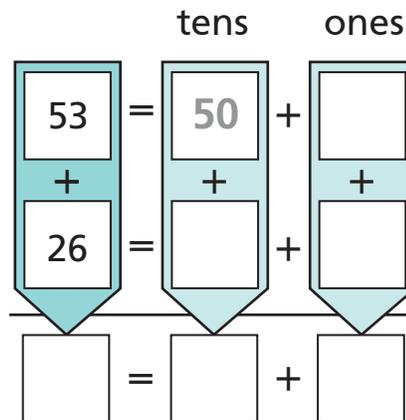
# Breaking Up Numbers to Add

NCTM Standards 1, 2, 6, 8, 9, 10

Find the sum. Break up the numbers before you add. HINT: You do not have to fill in all the boxes.

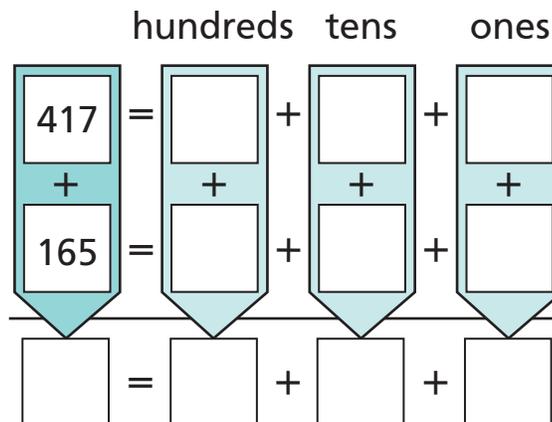
1

$$\begin{array}{r} 53 \\ + 26 \\ \hline \end{array}$$



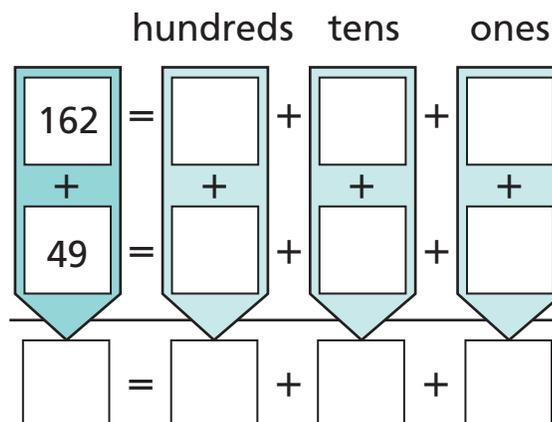
2

$$\begin{array}{r} 417 \\ + 165 \\ \hline \end{array}$$



3

$$\begin{array}{r} 162 \\ + 49 \\ \hline \end{array}$$



**Find the sum. If it helps, break up the numbers before you add.**

4  $125 + 27 = \square$

5  $15 + 339 = \square$

6  $107 + 209 = \square$

7  $226 + 394 = \square$

8  $272 + 29 = \square$

9  $608 + 195 = \square$



**10 Challenge** Make up an addition number story and have someone else solve it. Make an answer key with a complete number sentence that goes with the story.

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# Breaking Up Numbers to Subtract

NCTM Standards 1, 2, 6, 7, 8, 9, 10

Find the difference. Break up the numbers before you subtract.

1

$$\begin{array}{r} 53 \\ - 26 \\ \hline \end{array}$$

$$\begin{array}{|c|} \hline 53 \\ \hline - \\ \hline 26 \\ \hline \end{array} = \begin{array}{|c|} \hline 40 \\ \hline - \\ \hline \end{array} + \begin{array}{|c|} \hline 13 \\ \hline - \\ \hline \end{array}$$

$$\begin{array}{|c|} \hline 26 \\ \hline - \\ \hline \end{array} = \begin{array}{|c|} \hline \\ \hline - \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline - \\ \hline \end{array}$$


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$$\begin{array}{|c|} \hline \\ \hline \end{array} = \begin{array}{|c|} \hline \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline \end{array}$$

2

$$\begin{array}{r} 417 \\ - 165 \\ \hline \end{array}$$

$$\begin{array}{|c|} \hline 417 \\ \hline - \\ \hline 165 \\ \hline \end{array} = \begin{array}{|c|} \hline \\ \hline - \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline - \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline - \\ \hline \end{array}$$

$$\begin{array}{|c|} \hline 165 \\ \hline - \\ \hline \end{array} = \begin{array}{|c|} \hline \\ \hline - \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline - \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline - \\ \hline \end{array}$$


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$$\begin{array}{|c|} \hline \\ \hline \end{array} = \begin{array}{|c|} \hline \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline \end{array}$$

3

$$\begin{array}{r} 162 \\ - 49 \\ \hline \end{array}$$

$$\begin{array}{|c|} \hline 162 \\ \hline - \\ \hline 49 \\ \hline \end{array} = \begin{array}{|c|} \hline \\ \hline - \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline - \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline - \\ \hline \end{array}$$

$$\begin{array}{|c|} \hline 49 \\ \hline - \\ \hline \end{array} = \begin{array}{|c|} \hline \\ \hline - \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline - \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline - \\ \hline \end{array}$$


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$$\begin{array}{|c|} \hline \\ \hline \end{array} = \begin{array}{|c|} \hline \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline \end{array}$$

**Find the difference.**

4  $167 - 138 = \square$

5  $423 - 91 = \square$

6  $682 - 309 = \square$

7  $384 - 295 = \square$

8  $222 - 87 = \square$

9  $561 - 79 = \square$



**10 Challenge** Complete the number sentence and write a story to go with it.

$121 - 36 = \square$

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# Comparing Addition and Subtraction

NCTM Standards 1, 2, 6, 7, 8, 9, 10

Complete the related addition and subtraction sentences.  
You may start with any number sentence.

1

$$\begin{array}{r} 182 \\ + \square \\ \hline 425 \end{array}$$

$$\begin{array}{r} 425 \\ 182 \\ \hline \square \end{array}$$

$$\begin{array}{r} \square \\ + 182 \\ \hline 425 \end{array}$$

$$\begin{array}{r} 425 \\ - \square \\ \hline 182 \end{array}$$

2

$$\begin{array}{r} \square \\ + 411 \\ \hline 503 \end{array}$$

$$\begin{array}{r} 503 \\ - \square \\ \hline 411 \end{array}$$

$$\begin{array}{r} 503 \\ 411 \\ \hline \square \end{array}$$

$$\begin{array}{r} 411 \\ + \square \\ \hline 503 \end{array}$$

3

$$\begin{array}{r} 619 \\ - \square \\ \hline 295 \end{array}$$

$$\begin{array}{r} \square \\ + 295 \\ \hline 619 \end{array}$$

$$\begin{array}{r} 295 \\ + \square \\ \hline 619 \end{array}$$

$$\begin{array}{r} 619 \\ 295 \\ \hline \square \end{array}$$



- 4 The principal made 375 copies of next year's school calendar. She put 17 copies in different places around the school. She gave the rest to the teachers to give to their students.

Complete these number sentences:

Which sentence tells you how many copies went to the teachers? Explain.

$$375 + 17 = \square$$

$$375 - 17 = \square$$

Complete the addition puzzles.

5

$$\begin{array}{r} 2 \square 3 \\ + \quad 8 \square \\ \hline 3 \ 0 \ 7 \end{array}$$

6

$$\begin{array}{r} 1 \ 9 \ \square \\ + \square \ 8 \ 7 \\ \hline 5 \ \square \ 9 \end{array}$$

7

$$\begin{array}{r} 7 \ \square \ 6 \\ + \square \ 8 \ \square \\ \hline \square, \ 7 \ 0 \ 9 \end{array}$$



8 When adding, how do you know if you will need to regroup?

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9 Challenge

$$\begin{array}{r} \square \square 7 \\ + \quad \quad 3 \\ \hline \square, \square \square \square \end{array}$$

10 Challenge Make your own addition puzzle.

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# Addition Shortcuts and Rounding

NCTM Standards 1, 2, 6, 7, 9, 10

Complete the addition sentence.

$$\begin{array}{r} 3 \\ 8 \\ 7 \\ 5 \\ 5 \\ + 2 \\ \hline \square \end{array}$$

$$\begin{array}{r} 11 \\ 9 \\ 7 \\ 5 \\ 3 \\ + 1 \\ \hline \square \end{array}$$

$$\begin{array}{r} 10 \\ 12 \\ 14 \\ 16 \\ 18 \\ + 20 \\ \hline \square \end{array}$$

$$\begin{array}{r} 11 \\ 3 \\ 26 \\ 4 \\ 13 \\ + 6 \\ \hline \square \end{array}$$

$$\begin{array}{r} 2 \\ 3 \\ \square \\ 1 \\ 4 \\ + 1 \\ \hline 14 \end{array}$$

$$\begin{array}{r} \square \\ 2 \\ 3 \\ 7 \\ 8 \\ + 4 \\ \hline 26 \end{array}$$

$$\begin{array}{r} 9 \\ 1 \\ 5 \\ \square \\ 5 \\ \hline 28 \end{array}$$

$$\begin{array}{r} 12 \\ 2 \\ 11 \\ 6 \\ + \square \\ \hline 38 \end{array}$$

$$\begin{array}{r} 17 \\ 7 \\ 13 \\ 3 \\ 16 \\ + 4 \\ \hline \square \end{array}$$

$$\begin{array}{r} 13 \\ 15 \\ 15 \\ 15 \\ 16 \\ + 14 \\ \hline \square \end{array}$$

$$\begin{array}{r} 29 \\ 74 \\ + 11 \\ \hline \square \end{array}$$

$$\begin{array}{r} 64 \\ 42 \\ + \square \\ \hline 118 \end{array}$$

$$\begin{array}{r} 344 \\ 13 \\ + 16 \\ \hline \square \end{array}$$

$$\begin{array}{r} 426 \\ 7 \\ + 133 \\ \hline \square \end{array}$$

$$\begin{array}{r} 812 \\ \square \\ 28 \\ \hline 847 \end{array}$$

$$\begin{array}{r} 546 \\ 12 \\ + 361 \\ \hline \square \end{array}$$

17 Complete the number puzzle.

375	417	42		129		390
491						
116		284	397			48
188						
		163		58	349	
						468
438	464			379		

# Addition and Subtraction Situations

NCTM Standards 1, 2, 4, 6, 7, 8, 9, 10

## County Fair!

- 1 The snack bar opened with 35 gallons of lemonade. By noon, 18 gallons had been sold, so 20 more gallons were made. Between noon and 4:00, 24 gallons were sold, so an extra 20 gallons were made. After 4:00, another 26 gallons were sold. How much lemonade was left at the end of the day?



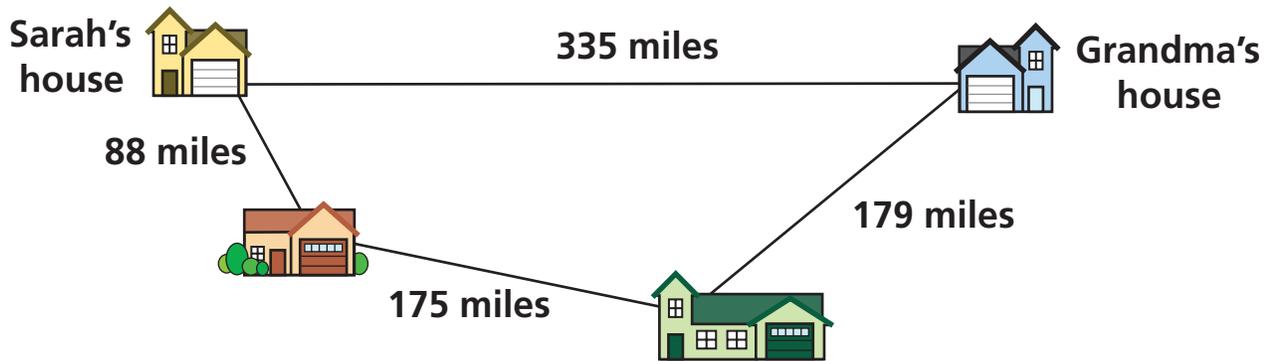
- 2 On Saturday, 479 ride tickets were sold. On Sunday, 298 tickets were sold. How many more tickets were sold on Saturday than on Sunday? If each ticket cost \$2.00, how much more money was collected on Saturday than on Sunday?



- 3 On Saturday, 71 tickets were sold for the Ferris wheel, 58 tickets for the roller coaster, and 83 tickets for the teacups. On Sunday, 68 tickets were sold for the Ferris wheel, 63 tickets for the roller coaster, and 75 tickets for the teacups. Altogether, were more tickets sold on Saturday or on Sunday? How many more?



- 4 Sarah drove 335 miles from her house to her grandma's house. On the way back, she drove 179 miles to her cousin's house, 175 miles to her friend's house, and 88 miles from her friend's house back home. In total, how many more miles did she drive on the way back from her grandma's house than on the way there?



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- 5 Complete the sentence  $586 - 345 + 183 = \underline{\quad}$ .  
Write a story to go with the number sentence.

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- 6 **Challenge** Josie bought a 12-foot by 15-foot piece of carpet for her living room. She needs to cut a 5-foot by 9-foot piece of carpet to make room for the stairs. How many square feet of carpet will she actually use for her living room?

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# Problem Solving Strategy

## Solve a Simpler Problem

NCTM Standards 1, 2, 6, 7, 8, 9, 10



- 1 In January, Sam earned \$123 and spent \$92. In February, he earned \$92 and spent \$70. In March, he earned \$181 and spent \$121. In April, he earned \$127 and spent \$111. How much money does Sam have now?

\$ \_\_\_\_\_

- 2 Ms. Lopez has 14 large boxes of pencils and 14 small boxes of pencils. There are 17 pencils in each large box and 3 pencils in each small box. How many pencils does she have?

\_\_\_\_\_ pencils

- 3 Which digit is used least often in the numbers 1 through 100? Explain how you know.

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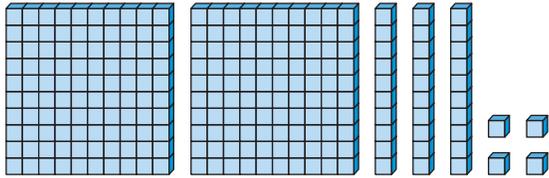
- 4 Which digit is used most often in the numbers 1 through 100? Explain how you know.

\_\_\_\_\_

# Problem Solving Test Prep

Choose the correct answer.

- 1 What is the product if the number shown below is multiplied by 3?



- A. 702                      C. 468  
B. 602                      D. 234

- 2 Use the number line to find the missing addend.

$$17 + \blacksquare = 23$$



- A. 3                              C. 5  
B. 4                              D. 6

- 3 What is the value of the 6 in this number?

26,905

- A. 60  
B. 600  
C. 6,000  
D. 60,000

- 4 A town map has horizontal and vertical streets. Each horizontal street intersects with each vertical street. There are 15 intersections. How many horizontal streets could there be?

- A. 3  
B. 4  
C. 6  
D. 10

## Show What You Know

Solve the problem. Explain your answer.

- 5 The table shows how many buttons the third-grade classes collected. Which two classes collected exactly 1,517 buttons?

Class	Buttons
Room 201	833
Room 203	764
Room 207	684
Room 209	763

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# Chapter 14

# Review/Assessment

NCTM Standards 1, 2, 6, 7, 9, 10

**1** I have 0 hundreds. Lesson 1

I have 5 tens.

I have 8 thousands.

I have 3 ones.

I have 0 ten thousands.

What number am I?

**2** Write a number in each box. Lesson 1

I am **685**.

I have  ones.

I have  hundreds.

I have  tens.

I have  thousands.

**Write the number in expanded form.** Lesson 1

	Hundred-thousands place	Ten-thousands place	Thousands place	Hundreds place	Tens place	Ones place
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**3** 50,186  +  +  +  +  +

**4** 7,322  +  +  +  +  +

**5** 463  +  +  +  +  +

**6** 409,251  +  +  +  +  +

**Find the sum or difference.** Lessons 2 and 3

**7**  $26 + 55 =$

**8**  $83 - 38 =$

**Complete the number sentence.** Lesson 4

9  $207 + 177 = \square$

10  $391 - 115 = \square$

11 
$$\begin{array}{r} 460 \\ 289 \\ \hline \square \end{array}$$

12 
$$\begin{array}{r} 749 \\ \square \\ \hline 460 \end{array}$$

13 There are 144 tiles on the bathroom floor. There are 49 green tiles, 25 white tiles, and the rest of the tiles are blue. How many tiles are blue? Lesson 6

\_\_\_\_\_ tiles

14 Jeremy has \$6.80. He spends \$1.15 for a granola bar and \$2.49 for a salad. How much money does Jeremy have left? Lesson 7

\$\_\_\_\_\_