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# Understanding Place Value

1 Circle the place value of the underlined digit. Then write its value.

Number	Place Value	Value
<b>ex a</b> 4 <u>5</u> 2	ones <u>tens</u> hundreds	50
<b>ex b</b> 10 <u>3</u>	<u>ones</u> tens hundreds	3
<b>a</b> <u>3</u> 82	ones tens hundreds	

Number	Place Value	Value
<b>b</b> 16 <u>4</u>	ones tens hundreds	
<b>c</b> 4 <u>7</u> 1	ones tens hundreds	
<b>d</b> <u>5</u> 04	ones tens hundreds	

2 Write  $>$  or  $<$  on the line to make a true statement.

<b>ex</b> 456 <u>&lt;</u> 546	<b>a</b> 96 _____ 69	<b>b</b> 326 _____ 362	<b>c</b> 127 _____ 217
<b>d</b> 960 _____ 906	<b>e</b> 312 _____ 231	<b>f</b> 304 _____ 430	<b>g</b> 719 _____ 790

3 Fill in the missing digits to make each statement true. There is more than one right answer for each one.

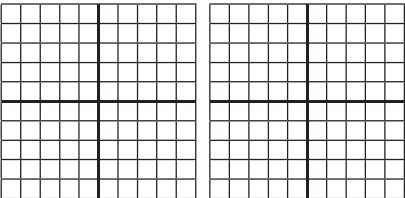
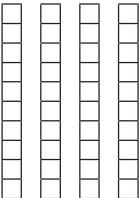
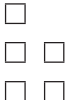
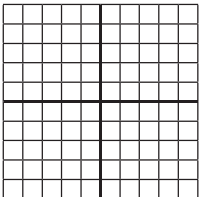
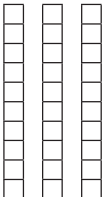
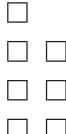
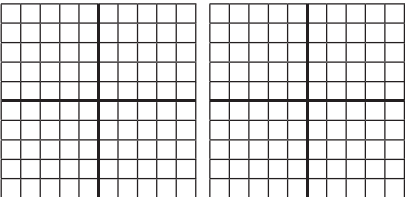
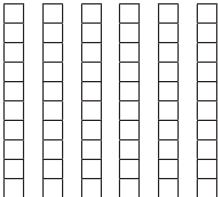
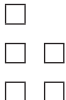
<b>ex</b> 3 <u>2</u> 7 $<$ 347	<b>a</b> 435 $>$ ___35	<b>b</b> 107 $<$ ___07	<b>c</b> 935 $<$ 93___
<b>d</b> 2___3 $>$ 263	<b>e</b> 1___7 $<$ 137	<b>f</b> 276 $>$ 2___6	<b>g</b> 119 $<$ 1___9

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# Expanded Notation 3-Digit Numbers

1 Write the value of the base ten pieces. Then write an equation to show the total value in expanded form.

	Hundreds	Tens	Ones	Equation
<b>ex</b>	<p>200</p> 	<p>40</p> 	<p>5</p> 	$200 + 40 + 5 = 245$
<b>a</b>				
<b>b</b>				



## CHALLENGE

2 Which has the greater total, part *a* or part *b*? Exactly how much more? Show all of your work.

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## Place Value Practice 3-Digit Numbers


1 Complete each equation by writing the number in standard form.

<b>example</b> $300 + 20 + 9 = \underline{329}$	<b>a</b> $800 + 40 + 5 = \underline{\hspace{2cm}}$
<b>b</b> $500 + 8 = \underline{\hspace{2cm}}$	<b>c</b> $600 + 20 = \underline{\hspace{2cm}}$
<b>d</b> $500 + 80 + 7 = \underline{\hspace{2cm}}$	<b>e</b> $900 + 10 + 4 = \underline{\hspace{2cm}}$

2 Complete each equation by writing the number in expanded form.

<b>example</b> $659 = \underline{600 + 50 + 9}$	<b>a</b> $437 = \underline{\hspace{2cm}}$
<b>b</b> $\underline{\hspace{2cm}} = 508$	<b>c</b> $549 = \underline{\hspace{2cm}}$
<b>d</b> $692 = \underline{\hspace{2cm}}$	<b>e</b> $\underline{\hspace{2cm}} = 749$

3 Write each set of numbers in order from least to greatest.

<b>example</b> 207, 720, 270, 702	$\underline{207}$ least	$\underline{270}$	$\underline{702}$	$\underline{720}$ greatest
<b>a</b> 437, 347, 734, 473	$\underline{\hspace{1cm}}$ least	$\underline{\hspace{1cm}}$	$\underline{\hspace{1cm}}$	$\underline{\hspace{1cm}}$ greatest
<b>b</b> 603, 630, 360, 316	$\underline{\hspace{1cm}}$ least	$\underline{\hspace{1cm}}$	$\underline{\hspace{1cm}}$	$\underline{\hspace{1cm}}$ greatest
<b>c</b> 191, 119, 190, 109	$\underline{\hspace{1cm}}$ least	$\underline{\hspace{1cm}}$	$\underline{\hspace{1cm}}$	$\underline{\hspace{1cm}}$ greatest
 <b>d</b> 6,071; 6,107; 6,017; 6,701	$\underline{\hspace{1cm}}$ least	$\underline{\hspace{1cm}}$	$\underline{\hspace{1cm}}$	$\underline{\hspace{1cm}}$ greatest

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## Patterns & Sums

1 Fill in the missing numbers in each skip-counting pattern.

**a** 7, 17, 27, \_\_\_\_\_, \_\_\_\_\_, 57, \_\_\_\_\_, \_\_\_\_\_, 87, 97, \_\_\_\_\_

**b** 8, 28, 48, \_\_\_\_\_, \_\_\_\_\_, 108, \_\_\_\_\_, \_\_\_\_\_, 168, 188, \_\_\_\_\_

**c** 4, 34, 64, \_\_\_\_\_, 124, 154, \_\_\_\_\_, \_\_\_\_\_, 244, 274, \_\_\_\_\_

2 Find each sum.

$$\begin{array}{r} 67 \\ + 20 \\ \hline \end{array}$$

$$\begin{array}{r} 38 \\ + 10 \\ \hline \end{array}$$

$$\begin{array}{r} 53 \\ + 30 \\ \hline \end{array}$$



$$\begin{array}{r} 76 \\ + 30 \\ \hline \end{array}$$

$$\begin{array}{r} 49 \\ + 20 \\ \hline \end{array}$$

$$\begin{array}{r} 63 \\ + 10 \\ \hline \end{array}$$

$$\begin{array}{r} 58 \\ + 20 \\ \hline \end{array}$$

3 Find each sum. Show all your work. Use the answers above to help you.

<p><b>a</b></p> $\begin{array}{r} 67 \\ + 20 \\ \hline \end{array}$	<p><b>b</b></p> $\begin{array}{r} 38 \\ + 16 \\ \hline \end{array}$
<p><b>c</b> <math>53 + 38 =</math></p>	<p><b>d</b> <math>76 + 35 =</math></p>
<p> <b>e</b></p> $\begin{array}{r} 257 \\ + 60 \\ \hline \end{array}$	<p> <b>f</b></p> $\begin{array}{r} 668 \\ + 70 \\ \hline \end{array}$

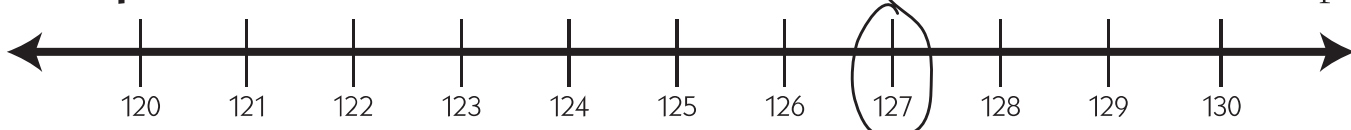
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## Rounding to the Nearest Ten

You can use a number line to help round to the nearest ten. If the digit in the ones place is 5 or higher, round up. If the digit in the ones place is less than 5, round down.

**example** Round each number to the nearest ten. Use the number line to help.



**a** 127 130

**1** Round each number to the nearest ten. Use the number line to help.



**a** 267 \_\_\_\_\_

**b** 262 \_\_\_\_\_

**c** 265 \_\_\_\_\_

**2** Round each number to the nearest ten. Use the number line to help.



**a** 645 \_\_\_\_\_

**b** 641 \_\_\_\_\_

**c** 646 \_\_\_\_\_

**3** Round each number to the nearest ten. (Look at the digit in the ones place. Think about a number line if it helps you.)

**a** 132 \_\_\_\_\_

**b** 365 \_\_\_\_\_

**c** 646 \_\_\_\_\_

**d** 282 \_\_\_\_\_

**e** 617 \_\_\_\_\_

**f** 539 \_\_\_\_\_

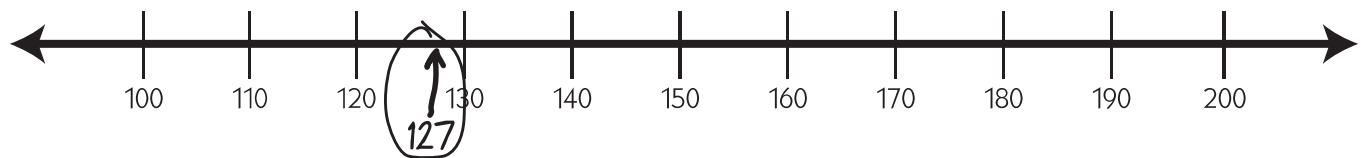
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## Rounding to the Nearest Hundred

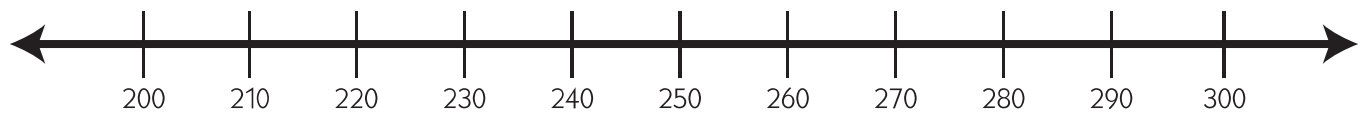
You can use a number line to help round to the nearest hundred. If the digit in the tens place is 5 or higher, round up. If the digit in the tens place is less than 5, round down. *You don't need to think about the number in the ones place.*

**example** Round each number to the nearest hundred. Use the number line to help.



**a** 127     100    

**1** Round each number to the nearest hundred. Use the number line to help.

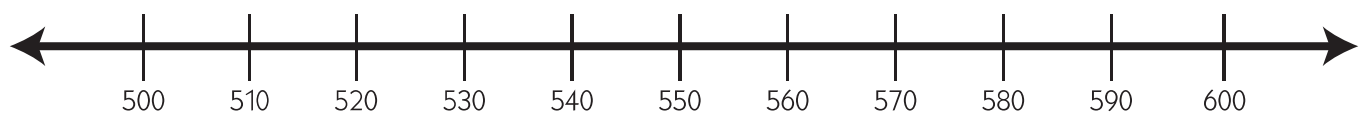


**a** 217           

**b** 256           

**c** 283           

**2** Round each number to the nearest hundred. Use the number line to help.



**a** 560           

**b** 507           

**c** 552           

**3** Round each number to the nearest hundred. (Look at the digit in the tens place. Think about a number line if it helps you.)

**a** 552           

**b** 389           

**c** 249           

**d** 438           

**e** 817           

**f** 270

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## Rounding to Estimate the Sum

**1** Rounding numbers can help you make good estimates. Round each pair of numbers to the nearest ten and then add the rounded numbers to estimate the sum.

Numbers to Add	Rounded to the Nearest Ten	Estimated Sum
<b>ex</b> 237 + 456	240 + 460	$\begin{array}{r} 240 \\ + 460 \\ \hline 700 \end{array}$
The sum of 237 and 456 is about equal to <u>700</u> .		
<b>a</b> 268 + 322	_____ + _____	
The sum of 268 and 322 is about equal to _____.		
<b>b</b> 47 + 824	_____ + _____	
The sum of 47 and 824 is about equal to _____.		

**2** Answer each question *yes* or *no* by rounding and estimating.

**a** Randy has \$400. He wants to buy a video game player that costs \$299 and two video games that each cost \$53. Does he have enough money?

**b** Laura is reading a book that is 250 pages long. She read 187 pages last week. If she reads 28 pages tonight, will she finish the book?

**c** Anton and his dad are driving to another state. They have 460 miles to drive in all. They drove 289 miles yesterday. If they drive 107 miles today, will they complete their trip?

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## Two Different Addition Methods

There are many ways to solve addition problems. One is to break the numbers you are adding into ones, tens, and hundreds and then add them. Another way is to use a number line to add up from one number. See the examples below.

Break Apart Method	Number Line Method
$\begin{array}{r} 175 \\ + 168 \\ \hline \end{array}$ $175 = 100 + 70 + 5$ $168 = 100 + 60 + 8$ $100 + 100 = 200$ $70 + 60 = 130$ $5 + 8 = 13$ $\begin{array}{r} 200 \\ 130 \\ + 13 \\ \hline 343 \end{array}$	$\begin{array}{r} 175 \\ + 168 \\ \hline \end{array}$ $175 + 168 = 175 + 100 + 30 + 30 + 5 + 3$ $175 + 168 = 343$

**1** Solve the addition problems below. Use the Break Apart Method to solve two problems. Use the Number Line Method to solve two problems.

**a**

$$\begin{array}{r} 237 \\ + 156 \\ \hline \end{array}$$

**b**

$$\begin{array}{r} 406 \\ + 357 \\ \hline \end{array}$$

**c**

$$\begin{array}{r} 638 \\ + 185 \\ \hline \end{array}$$

**d**

$$\begin{array}{r} 544 \\ + 369 \\ \hline \end{array}$$



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## Round, Estimate & Find the Sum

Before you start adding numbers, it is a good idea to estimate what their sum will be. That way, you can tell if your final answer is reasonable. Round each pair of numbers to the nearest ten and then add the rounded numbers to estimate the sum. Then use the standard algorithm to find the exact sum.

Numbers to Add	Round and Add	Estimated Sum	Exact Sum (use the algorithm)
<b>ex</b> $\begin{array}{r} 348 \\ + 173 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ 350 \\ + 170 \\ \hline 520 \end{array}$	The sum will be about <u>520</u> .	$\begin{array}{r} 11 \\ 348 \\ + 173 \\ \hline 521 \end{array}$
<b>1</b> $\begin{array}{r} 267 \\ + 338 \\ \hline \end{array}$		The sum will be about _____.	$\begin{array}{r} 267 \\ + 338 \\ \hline \end{array}$
<b>2</b> $\begin{array}{r} 438 \\ + 583 \\ \hline \end{array}$		The sum will be about _____.	$\begin{array}{r} 438 \\ + 583 \\ \hline \end{array}$
<b>3</b> $\begin{array}{r} 842 \\ + 159 \\ \hline \end{array}$		The sum will be about _____.	$\begin{array}{r} 842 \\ + 159 \\ \hline \end{array}$

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## Round & Subtract

**1** Rounding numbers can help you make good estimates. Round each pair of numbers to the nearest *ten* and then subtract the rounded numbers to estimate the difference.

Numbers to Subtract	Rounded to the Nearest Ten	Estimated Difference
<b>ex</b> 867 - 485	<u>870</u> - <u>490</u>	$\begin{array}{r} 870 \\ - 490 \\ \hline 380 \end{array}$
The difference between 867 and 485 is about equal to <u>380</u> .		
<b>a</b> 608 - 263	_____ - _____	
The difference between 608 and 263 is about equal to _____.		
<b>b</b> 732 - 546	_____ - _____	
The difference between 732 and 546 is about equal to _____.		

**2** Now round to the nearest *hundred* and then subtract to estimate the difference.

<b>a</b> 1,508 - 620	_____ - _____	
The difference between 1,508 and 620 is about equal to _____.		
<b>b</b> 2,482 - 936	_____ - _____	
The difference between 2,482 and 936 is about equal to _____.		

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## Place Value Four-Digit Numbers

**1** Complete each equation by writing each number in standard form.

**example**  $8,000 + 20 + 6 = \underline{8,026}$       **a**  $4,000 + 800 + 30 + 1 = \underline{\hspace{2cm}}$

**b**  $9,000 + 400 + 60 + 2 = \underline{\hspace{2cm}}$       **c**  $\underline{\hspace{2cm}} = 7,000 + 60 + 2$

**d**  $5,000 + 300 + 80 = \underline{\hspace{2cm}}$       **e**  $\underline{\hspace{2cm}} = 2,000 + 100 + 4$

**2** Fill in the missing numbers or words.

Numbers	Words
<b>ex a</b> 5,629	five thousand six hundred twenty-nine
<b>ex b</b> 3,082	three thousand eighty-two
<b>a</b>	two thousand twelve
<b>b</b>	eight thousand five hundred sixty-seven
<b>c</b> 6,032	
<b>d</b> 1,583	

**3** Use your estimation skills to answer each question *yes* or *no* without adding or subtracting to find an exact answer.

**a** The Lighting Bolts need 200 points to make it to the next round of the basketball tournament. So far, they have 154 points. If they score 37 more points by the end of the game, will they make it to the next round?

**b** Simon has \$300 to spend. Can he afford to buy a bike for \$150, safety lights for \$34, and a good helmet for \$56?