thousands	hundreds	tens	ones
		O	⦰ ⦰ ⦰ ⦰ ⦰ ⦰ ⦰ ⦰ ⦰ ⦰

1 ten is 10 times as much as 1 one

POWER OF TEN

Billions	Hundred Millions	Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
1,	0	0	0,	0	0	0			

Each place in a place-value chart has a value that is 10 times as great as the place value to its right.

thousands	hundreds	tens	ones
	O	⦰ ⦰ ⦰ ⦰ ⦰ ⦰ ⦰ ⦰ ⦰ ⦰	

1 hundred is 10 times as much as 1 ten

thousands	hundreds	tens	ones
O	⦰ ⦰ ⦰ ⦰ ⦰ ⦰ ⦰ ⦰ ⦰ ⦰		

1 thousand is 10 times as much as 1 hundred

1 ten = 10 x 1 one

1 hundred = 10 x 1 ten

1 thousand = 10 x 1 hundred

10 × 4 hundreds = 40 hundreds = 4 thousands

10 times as many as 4 hundreds is 40 hundreds.

10 times as many as 4 hundreds is   4   thousands.

Whenever you have 10 of one unit, you can bundle the units to make a larger unit.

ten thousands	thousands	hundreds	tens	ones
○	∅∅∅∅∅∅∅∅∅∅			

1 ten thousand is 10 times as much as 1 thousand

hundred thousands	ten thousands	thousands	hundreds	tens	ones
○	∅∅∅∅∅∅∅∅∅∅				

1 hundred thousand is 10 times as much as 1 ten thousand

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones
○	∅∅∅∅∅∅∅∅∅∅					

1 million is 10 times as much as 1 hundred thousand

1 ten thousand = 10 × 1 thousand
1 hundred thousand = 10 × 1 ten thousand
1 million = 10 × 1 hundred thousand

thousands	hundreds	tens	ones
	4	3	0
4	3	0	0

(4 hundreds 3 tens) × 10 = 4 thousands 3 hundreds = 4300

Multiply by 10 – move to the left one place value

ten thousands	thousands	hundreds	tens	ones
5	0	0	2	0
	5	0	0	2

(5 ten thousands 2 tens) ÷ 10 = 5 thousands 2   ones

Divide by 10 – move to the right one place value

Commas are placed after every three units.

608,430,325

Standard form	Write the <u>number</u>	360,940
Expanded form	Write the <u>value</u> of <u>each number</u>	300,000 + 60,000 + 900 + 40 = 360,940
Word form	Write how you <u>say the number</u>	Three hundred sixty thousand, nine hundred forty

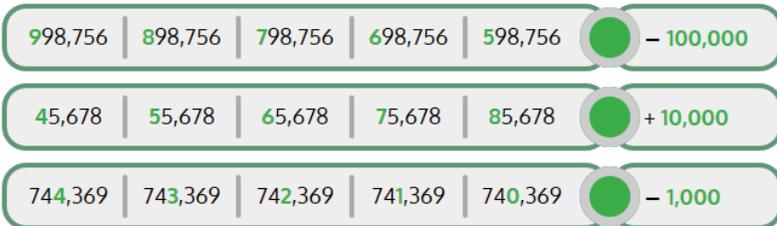| Greater than	Less than
>	<
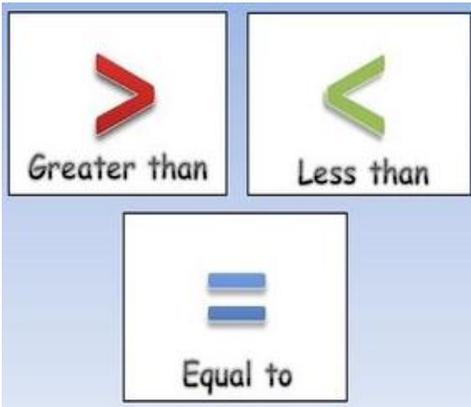
Equal to
=

When comparing numbers:

- First, look at the unit with the greatest value.
- Then, decide which number is greater, less than or equal to. (Remember the mouth of the symbol always eats the bigger number).

** If the greatest value units are the same, then go to the next largest unit and compare. **

Look for which unit is changing and by how much.

| 998,756 | 898,756 | 798,756 | 698,756 | 598,756 | ● – 100,000 |

| 45,678 | 55,678 | 65,678 | 75,678 | 85,678 | ● + 10,000 |

| 744,369 | 743,369 | 742,369 | 741,369 | 740,369 | ● – 1,000 |

Rounding Steps

- Find your place and box it tight.
- Look at the number to the right.
- 5 or greater, add one more.
- Stay the same for 0 to 4.
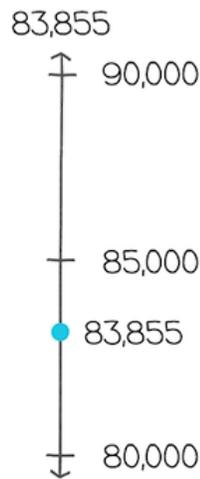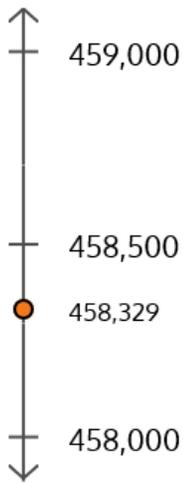- Numbers in front, stay the same.
- Numbers behind, zero's their name.

40 hundreds = 4,000

35 hundreds = 3500

30 hundreds = 3,000
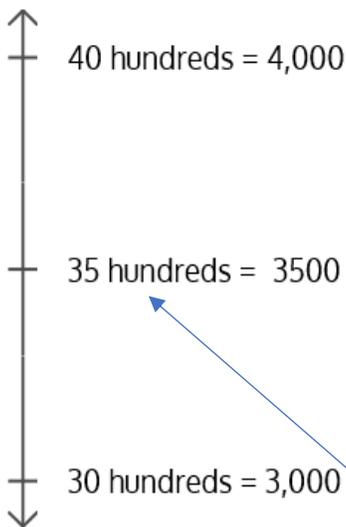
Halfway between two tens is a five.

4,000

3,700

3,500

3,000
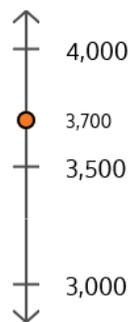
This symbol means about (rounded)   3,700 ≈ 4000

We're rounding to the thousands place. _Be sure to look at the place value they are_
Between what two thousands is 458,329? Label the endpoints _asking in the question._

459,000

458,500

● 458,329

458,000

83,855

90,000

Round to the nearest ten
thousand.

85,000

● 83,855

80,000

458,329 ≈ 458,000

Round to the nearest <u>hundred thousand</u>:	147,591 ≈ 100,000
Round to the nearest <u>ten thousand</u>:	147,591 ≈ 150,000
Round to the nearest <u>thousand</u>:	147,591 ≈ 148,000
Round to the nearest <u>hundred</u>:	147,591 ≈ 147,600
Round to the nearest <u>ten</u>:	147,591 ≈ 147,590

thousands	hundreds	tens	ones
OOOO	OO	OOOØ	OOOOO
OOO	OOOOO O	ØØØØØ ØØØØ	OOOO

4,245
+ 3,594
———
7,839

Always <u>start with the ones place</u> when adding with standard algorithm. Be sure to <u>bundle</u>
<u>when you have 10 units.</u>

38,193 + 26,376 + 41,457

106,026

38,193	26,376	41,457

64,569

When adding three numbers, start by adding 2 of them together. Then, take the sum (answer) from that problem, and add it to the remaining number.
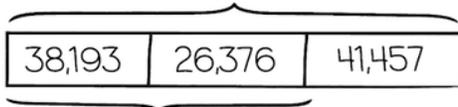
$$
\begin{array}{r}
38{,}193 \\
+\ 26{,}376 \\
\hline
64{,}569
\end{array}
$$

$$
\begin{array}{r}
64{,}569 \\
+41{,}457 \\
\hline
106{,}026
\end{array}
$$

thousands	hundreds	tens	ones
OØØ	ØØ	OOOO OOOOØ ØØØØØ	OOOOO OOØ

$$
\begin{array}{r}
{}^{1\ 14} \\
3{,}2\cancel{4}8 \\
-\ 2{,}161 \\
\hline
1{,}087
\end{array}
$$

Remember when you subtract, you always start in the ones place.

What number must be added to 7,503 to result in a sum of 29,014?
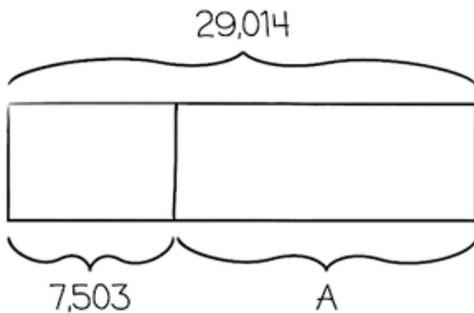
29,014

7,503   A

$$
\begin{array}{r}
{}^{8\ 10} \\
2\cancel{9}{,}\cancel{0}14 \\
-\ \ 7{,}503 \\
\hline
21{,}511
\end{array}
$$

29,014 − 7,503 = A

When you don't have enough of units to subtract (the bigger number is on the bottom), then unbundle the unit before it.

$$
\begin{array}{r}
{}^{2}\ {}^{\cancel{0}}\ {}^{14} \\
\cancel{3}\ \cancel{1}{,}\cancel{4}\ 8\ 6 \\
-\ \ \ \ 2{,}6\ 4\ 2 \\
\hline
2\ 8{,}8\ 4\ 4
\end{array}
$$

```
     10   9
  1   0̸  1̸0̸  12
  2̸  1̸  0̸, 2̸  9  0
-     4  5, 7  2  0
_____
  1  6  4, 5  7  0
```

When you need to unbundle, but there is a 0, go to the next unit and unbundle. The 0 becomes a 10. Then unbundle one from the ten.

To check your work for subtraction, add the difference (answer) with the part (bottom number) and you should get the whole (top number).

```
  164,570
+  45,520
_____
  210,290
```

Reasonable – means does your answer make sense