




Subtraction Examples 1 & 2:


Look Right →


$8 - 2 = \square$
 make that \square


$3 + \square = \square$
 make that \square


7	2	5	1	8	3	4
-	1	6	6	9	2	5

$7 - 1 = \square$
 make that \square


$4 + \square = \square$



$2 + \square = \square$
 make that \square

$5 - 6 = -\square$
 $= \square$
 make that \square


$1 + \square = \square$



Look Right →


$0 + \square = \square$



$6 - 1 = \square$



8	3	4	2	0	6	5	
-	3	8	5	9	2	1	3

$8 - 3 = \square$
 make that \square

$5 - 3 = \square$



$3 + \square = \square$
 make that \square


$4 - 5 = -\square$
 $= \square$
 make that \square


$2 + \square = \square$
 make that \square

Subtraction Examples 3 & 4:


Look Right →


$1 - 0 = \square$
 make that \square


$3 - 4 = -\square$
 $= \square$
 make that \square


$7 + \square = \square$


4	2	0	0	1	3	7
-						
2	9	7	7	0	4	8


$4 - 2 = \square$
 make that \square


$2 + \square = \square$
 make that \square


$0 + \square = \square$
 make that \square

$0 + \square = \square$



Look Right →


$2 + \square = \square$
 make that \square

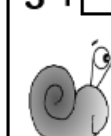
$6 - 7 = -\square$
 $= \square$
 make that \square


$0 + \square = \square$


5	4	5	4	2	6	0
-						
1	0	8	1	9	7	8

$5 - 1 = \square$


$4 - 0 = \square$
 make that \square

$5 + \square = \square$


$4 - 1 = \square$
 make that \square

Subtraction Examples 5 & 6:

Do you need to reduce because of the neighbour or not? I'm not telling...



Look Right →

6	0	3	1	4	2	8	
-	5	7	1	8	2	9	7

$4 - 2 = \square$
 make that \square ?

$2 + \square = \square$
 make that \square ?

$8 - 7 = \square$

$6 - 5 = \square$
 make that \square ?

$0 + \square = \square$
 make that \square ?

$3 - 1 = \square$
 make that \square ?

$1 + \square = \square$
 make that \square ?

Look Right →

5	1	8	3	0	7	2	
-	1	3	6	9	4	8	1

$0 + \square = \square$
 make that \square ?

$7 - 8 = -\square$
 $= \square$
 make that \square ?

$2 - 1 = \square$

$5 - 4 = \square$
 make that \square ?

$1 - 3 = -\square$
 $= \square$
 make that \square ?

$8 - 6 = \square$
 make that \square ?

$3 + \square = \square$
 make that \square ?

Subtraction Examples 7 & 8:

Look Right →

$5 + \square = \square$
 make that \square ?

$6 - 5 = \square$
 make that \square ?

	9	0	3	4	5	6	7
-	3	3	1	6	9	5	9

$9 - 3 = \square$
 make that \square ?

$7 + \square = \square$

$0 + \square = \square$
 make that \square ?

$3 - 1 = \square$
 make that \square ?

$4 - 6 = -\square$
 $= \square$
 make that \square ?

Look Right →

$3 - 4 = -\square$
 $= \square$
 make that \square ?

$6 + \square = \square$
 make that \square ?

	4	2	1	0	3	6	2
-	1	1	7	7	4	9	1

$4 - 1 = \square$
 make that \square ?

$2 + 1 = \square$

$2 - 1 = \square$
 make that \square ?

$1 + \square = \square$
 make that \square ?

$0 + \square = \square$
 make that \square ?

Answers:

Subtraction Examples 1 & 2 ANSWERS:

Look Right →

7	2	5	1	8	3	4
-	1	6	6	9	2	7
5	5	8	2	5	5	9

$8 - 2 = \boxed{6}$
make that $\boxed{5}$

$3 + \boxed{3} = \boxed{6}$
make that $\boxed{5}$

$4 + \boxed{5} = \boxed{9}$

$7 - 1 = \boxed{6}$
make that $\boxed{5}$

$2 + \boxed{4} = \boxed{6}$
make that $\boxed{5}$

$5 - 6 = -\boxed{1}$
 $= \boxed{9}$
make that $\boxed{8}$

$1 + \boxed{1} = \boxed{2}$

8	3	4	2	0	6	5
-	3	8	5	9	2	1
4	4	8	2	8	5	2

$0 + \boxed{8} = \boxed{8}$

$6 - 1 = \boxed{5}$

$5 - 3 = \boxed{2}$

$8 - 3 = \boxed{5}$
make that $\boxed{4}$


$3 + \boxed{2} = \boxed{5}$
make that $\boxed{4}$


$4 - 5 = -\boxed{1}$
 $= \boxed{9}$
make that $\boxed{8}$


$2 + \boxed{1} = \boxed{3}$
make that $\boxed{2}$

Subtraction Examples 3 & 4 ANSWERS:


Look Right →


$1 - 0 = \boxed{1}$
 make that $\boxed{0}$


$3 - 4 = -\boxed{1}$
 $= \boxed{9}$
 make that $\boxed{8}$


$7 + \boxed{2} = \boxed{9}$


4	2	0	0	1	3	7	
-	2	9	7	7	0	4	8
1	2	2	3	0	8	9	


$4 - 2 = \boxed{2}$
 make that $\boxed{1}$


$2 + \boxed{1} = \boxed{3}$
 make that $\boxed{2}$


$0 + \boxed{3} = \boxed{3}$
 make that $\boxed{2}$

$0 + \boxed{3} = \boxed{3}$



Look Right →


$2 + \boxed{1} = \boxed{3}$
 make that $\boxed{2}$

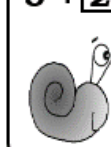
$6 - 7 = -\boxed{1}$
 $= \boxed{9}$
 make that $\boxed{8}$


$0 + \boxed{2} = \boxed{2}$


5	4	5	4	2	6	0	
-	1	0	8	1	9	7	8
4	3	7	2	2	8	2	

$5 - 1 = \square$


$4 - 0 = \boxed{4}$
 make that $\boxed{3}$

$5 + \boxed{2} = \boxed{7}$


$4 - 1 = \boxed{3}$
 make that $\boxed{2}$

Subtraction Examples 5 & 6 ANSWERS:

Look Right →

6	0	3	1	4	2	8
-	5	7	1	8	2	9
0	3	1	3	1	3	9

$6 - 5 = 1$
 make that **0**

$4 - 2 = 2$
 make that **1**

$2 + 1 = 3$

$8 - 7 = 1$

$0 + 3 = 3$

$3 - 1 = 2$
 make that **1**

$1 + 2 = 3$

Look Right →

5	1	8	3	0	7	2
-	1	3	6	9	4	8
3	8	1	3	5	9	1

$5 - 1 = 4$
 make that **3**

$0 + 6 = 6$
 make that **5**

$7 - 8 = -1$
 $= 9$

$2 - 1 = 1$

$1 - 3 = -2$
 $= 8$

$8 - 6 = 2$
 make that **1**

$3 + 1 = 4$
 make that **3**

Subtraction Examples 7 & 8 ANSWERS:

Look Right →

9	0	3	4	5	6	7
-	3	3	1	6	9	5
5	7	1	7	6	0	8

$5 + 1 = 6$

$6 - 5 = 1$
 make that **0**

$7 + 1 = 8$

$9 - 3 = 6$
 make that **5**

$0 + 7 = 7$

$3 - 1 = 2$
 make that **1**

$4 - 6 = -2$
 $= 8$
 make that **7**

Look Right →

4	2	1	0	3	6	2
-	1	1	7	7	4	9
3	0	3	2	8	7	1

$3 - 4 = -1$
 $= 9$
 make that **8**

$6 + 1 = 7$

$2 - 1 = 1$

$4 - 1 = 3$

$2 - 1 = 1$
 make that **0**

$1 + 3 = 4$
 make that **3**

$0 + 3 = 3$
 make that **2**

Order! Order! Order in the Court!

You can subtract in any order.

Left to right.

Right to left.

*Heck - just start in the middle and go out on both sides
towards the edges if you like!*

*But of all of them, going right to left means
you read off the answer in the way you would tend to say it.
"200 - 11 = 189" sounds better than 200 - 11 = "981 backwards".*

Here are some more subtractions to practice with. Don't forget, you can always check a subtraction because the answer added to the number being taken away should add back up to the starting number!

$$\begin{array}{r} 682519 \\ - 138751 \\ \hline 543768 \end{array}$$

$$\begin{array}{r} 801576 \\ - 246804 \\ \hline 554772 \end{array}$$

$$\begin{array}{r} 2914836 \\ - 0499188 \\ \hline 2415648 \end{array}$$

$$\begin{array}{r} 6544321 \\ - 1978719 \\ \hline 4565602 \end{array}$$

$$\begin{array}{r} 9172586 \\ - 0891497 \\ \hline 8281089 \end{array}$$

$$\begin{array}{r} 4017369 \\ - 3921573 \\ \hline 0095796 \end{array}$$

ZEROS

The top number in a circle is zero. Zero is the start of number. Most algebra equations revolve around relating things to zero. So don't underestimate the power of zero!

Zero's coming out in a subtraction can turn one way or another. Take a look at these:

$$\begin{array}{r} \text{(a)} \\ 804 \\ - 001 \\ \hline 803 \end{array}$$

$$\begin{array}{r} \text{(b)} \\ 800 \\ - 001 \\ \hline 799 \end{array}$$

$$\begin{array}{r} \text{(c)} \\ 80000 \\ - 00001 \\ \hline 79999 \end{array}$$

$$\begin{array}{r} \text{(c)} \\ 8244 \\ - 2241 \\ \hline 6003 \end{array}$$

$$\begin{array}{r} \text{(d)} \\ 8244 \\ - 2246 \\ \hline 5998 \end{array}$$

$$\begin{array}{r} \text{(e)} \\ 820914 \\ - 220916 \\ \hline 599998 \end{array}$$

In (a) we take 1 off 804 and get 803. Straightforward.

In (b) we take 1 off 800 and we get 799. The difference is that the last digit went below zero.

In (c) we took a bigger example. The same thing happened when the last digit went below zero.

What was the difference?

When the last digit went below zero:

- The first digit's result went down (from 8 to 7)
- The zero's became 9's
- The last digit needed to be worked out in 10-circle using the "Add a Comp" method

In (c) we note the middle bit of the sum is $(24 - 24 = 00)$. The start is $8 - 2 = 6$. The $4 - 1$ came to 3.

In (d) the same was true except the $4 - 6$ on the end needed 10-circle and went below zero. The answer up to that point would have been 600... but it switched to 599...

In (e) the same thing but larger. Working left to right the answer would have been 60000... right up to that last end digit. If it had been $6 - 4 = 2$ on the end the answer would have been 600002 but it wasn't. It was $4 - 6$ which went below zero. 10-circle was used and the answer became 59999 with an 8 on the end.

Microscopic Analysis

Let's look at $842 - 147$ "under the microscope":

$$\begin{array}{r} 842 \\ - 147 \\ \hline 695 \end{array}$$

We will work from LEFT to RIGHT:

Step 1:

$8 - 1 = 7$. Look right to it's neighbour. Is it hard or easy (below zero or above zero) ?

Actually it is zero exactly! $4 - 4 = 0$. Neither above zero nor below zero.

If it was below zero you would need to reduce the $8 - 1 = 7$ by 1 to get 6.

If it was above zero you wouldn't need to.

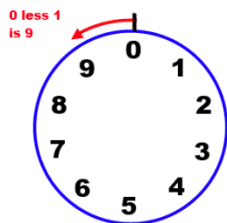
The temptation is to say "it's on zero so its fine".

But don't forget that the $4 - 4 = 0$ result will depend on what's on its right!

And in this case its right hand neighbour is $2 - 7$ which goes below zero!

So that means the $4 - 4$ must itself be reduced by 1...

But that pushes it 1 below zero! Which takes it back to 9 in a 10-circle.



This means that the $4 - 4$ step went BELOW ZERO.

