

5. [Large Number +, -]

Skill 5.1 Adding large numbers without carry over using columns.

MMYellow 1 1 2 2 3 3 4 4
MMRed 1 1 2 2 3 3 4 4

- Keep the units, tens, hundreds and thousands in their own columns.
- Add all the digits in each column, working from right to left.

Q.

$$\begin{array}{r} 125 \\ + 43 \\ \hline \end{array}$$

A.

hundreds	tens	units	
1	2	5	
+	4	3	
<hr/>			
1	6	8	Units first!

Units:
 $5 + 3 = 8 \Rightarrow 8$ units

Tens:
 $2 + 4 = 6 \Rightarrow 6$ tens

Hundreds:
 $1 + 0 = 1 \Rightarrow 1$ hundred

a)

$$\begin{array}{r} 134 \\ + 23 \\ \hline \end{array}$$

1 5 7 Units first!

b)

$$\begin{array}{r} 437 \\ + 52 \\ \hline \end{array}$$

Units first!

c)

$$\begin{array}{r} 305 \\ + 81 \\ \hline \end{array}$$

d)

$$\begin{array}{r} 5736 \\ + 33 \\ \hline \end{array}$$

e)

$$\begin{array}{r} 212 \\ 413 \\ + 31 \\ \hline \end{array}$$

6 5 6

f)

$$\begin{array}{r} 53 \\ 516 \\ + 20 \\ \hline \end{array}$$

g)

$$\begin{array}{r} 114 \\ 863 \\ + 22 \\ \hline \end{array}$$

h)

$$\begin{array}{r} 7164 \\ 1403 \\ + 231 \\ \hline \end{array}$$

i)

$$\begin{array}{r} 1730 \\ 15 \\ 3031 \\ + 22 \\ \hline \end{array}$$

4 7 9 8

j)

$$\begin{array}{r} 3205 \\ 210 \\ 534 \\ + 40 \\ \hline \end{array}$$

k)

$$\begin{array}{r} 300 \\ 402 \\ 3056 \\ + 21 \\ \hline \end{array}$$

l)

$$\begin{array}{r} 6201 \\ 140 \\ 1035 \\ + 322 \\ \hline \end{array}$$

- Keep the units, tens, hundreds and thousands in their own columns.
- Add all the digits in each column, working from right to left.

Q.

$$\begin{array}{r} 146 \\ + 47 \\ \hline \end{array}$$

A.

$$\begin{array}{r} \text{hundreds} \quad \text{tens} \quad \text{units} \\ 146 \\ + 47 \\ \hline 193 \end{array}$$

Units first!

Units:

$$6 + 7 = 13 = 1 \text{ ten} + 3 \text{ units}$$

⇒ 3 units

Carry over the 1 ten to the tens column.

Tens:

$$4 + 4 + 1 \text{ (carry over)} = 9 \Rightarrow 9 \text{ tens}$$

Hundreds:

$$1 + 0 = 1 \Rightarrow 1 \text{ hundred}$$

a)

$$\begin{array}{r} 527 \\ + 37 \\ \hline \end{array}$$

564 Units first!

b)

$$\begin{array}{r} 206 \\ + 89 \\ \hline \end{array}$$

Units first!

c)

$$\begin{array}{r} 323 \\ + 68 \\ \hline \end{array}$$

d)

$$\begin{array}{r} 4653 \\ + 54 \\ \hline \end{array}$$

e)

$$\begin{array}{r} 328 \\ 220 \\ + 71 \\ \hline \end{array}$$

f)

$$\begin{array}{r} 41 \\ 38 \\ + 905 \\ \hline \end{array}$$

g)

$$\begin{array}{r} 202 \\ 538 \\ + 62 \\ \hline \end{array}$$

h)

$$\begin{array}{r} 2482 \\ 1397 \\ + 200 \\ \hline \end{array}$$

i)

$$\begin{array}{r} 645 \\ 21 \\ 3057 \\ + 45 \\ \hline \end{array}$$

j)

$$\begin{array}{r} 400 \\ 113 \\ 2534 \\ + 4271 \\ \hline \end{array}$$

k)

$$\begin{array}{r} 528 \\ 301 \\ 7056 \\ + 64 \\ \hline \end{array}$$

l)

$$\begin{array}{r} 6201 \\ 12 \\ 1825 \\ + 369 \\ \hline \end{array}$$

Skill 5.3 Adding large numbers by adding each place value, then adding the totals.

- Add the digits in each place (units together, tens together, hundreds together).
- Then add the totals.

Q.

$$\begin{array}{r} 685 \\ + 246 \\ \hline \end{array}$$

A.

	hundreds	tens	units
	6	8	5
	+ 2	+ 4	+ 6
	-----	-----	-----
	9	3	1

Add the units (U):	$5 + 6 =$	1	1)	
Add the tens (T):	$80 + 40 =$	1	2		0
Add the hundreds (H):	$600 + 200 =$	8	0		0
		-----	-----	-----	
		9	3	1	

a)

$$\begin{array}{r} 18 \\ + 73 \\ \hline \end{array}$$

U	$8 + 3 =$	1	1)	
T	$10 + 70 =$	8	0		0
		-----	-----		-----
		9	1		

b)

$$\begin{array}{r} 26 \\ + 44 \\ \hline \end{array}$$

U	$6 + 4 =$	1	0
T	$20 + 40 =$	-----	-----
		-----	-----

c)

$$\begin{array}{r} 37 \\ + 195 \\ \hline \end{array}$$

U	=	-----	-----
T	=	-----	-----
H	=	-----	-----

d)

$$\begin{array}{r} 318 \\ + 46 \\ \hline \end{array}$$

U	=	-----	-----
T	=	-----	-----
H	=	-----	-----

e)

$$\begin{array}{r} 16 \\ 512 \\ + 47 \\ \hline \end{array}$$

U	$6 + 2 + 7 =$	1	5)	
T	$10 + 10 + 40 =$	6	0		0
H	$500 =$	5	0		0
		-----	-----	-----	

f)

$$\begin{array}{r} 41 \\ 473 \\ + 22 \\ \hline \end{array}$$

U	=	-----	-----
T	=	-----	-----
H	=	-----	-----

g)

$$\begin{array}{r} 28 \\ 302 \\ + 435 \\ \hline \end{array}$$

U	=	-----	-----
T	=	-----	-----
H	=	-----	-----

h)

$$\begin{array}{r} 132 \\ 767 \\ + 84 \\ \hline \end{array}$$

U	=	-----	-----
T	=	-----	-----
H	=	-----	-----

Skill 5.4 Subtracting large numbers without carry over using columns.

- Keep the units, tens, hundreds and thousands in their own columns.
- Subtract the digits in each column, working from right to left.

Q.

$$\begin{array}{r} 147 \\ - 43 \\ \hline \end{array}$$

A.

hundreds	tens	units	
1	4	7	
-	4	3	
1 0 4			Units first!

Units:
 $7 - 3 = 4 \Rightarrow 4$ units

Tens:
 $4 - 4 = 0 \Rightarrow 0$ tens

Hundreds:
 $1 - 0 = 1 \Rightarrow 1$ hundred

a)

$$\begin{array}{r} 567 \\ - 25 \\ \hline \end{array}$$

5 4 2

Units first!

b)

$$\begin{array}{r} 98 \\ - 54 \\ \hline \end{array}$$

Units first!

c)

$$\begin{array}{r} 25 \\ - 20 \\ \hline \end{array}$$

d)

$$\begin{array}{r} 436 \\ - 31 \\ \hline \end{array}$$

e)

$$\begin{array}{r} 156 \\ - 40 \\ \hline \end{array}$$

f)

$$\begin{array}{r} 534 \\ - 123 \\ \hline \end{array}$$

g)

$$\begin{array}{r} 888 \\ - 208 \\ \hline \end{array}$$

h)

$$\begin{array}{r} 795 \\ - 673 \\ \hline \end{array}$$

i)

$$\begin{array}{r} 1134 \\ - 123 \\ \hline \end{array}$$

j)

$$\begin{array}{r} 3434 \\ - 13 \\ \hline \end{array}$$

k)

$$\begin{array}{r} 6789 \\ - 123 \\ \hline \end{array}$$

l)

$$\begin{array}{r} 2505 \\ - 205 \\ \hline \end{array}$$

m)

$$\begin{array}{r} 8796 \\ - 7465 \\ \hline \end{array}$$

n)

$$\begin{array}{r} 6134 \\ - 3123 \\ \hline \end{array}$$

o)

$$\begin{array}{r} 9758 \\ - 1543 \\ \hline \end{array}$$

p)

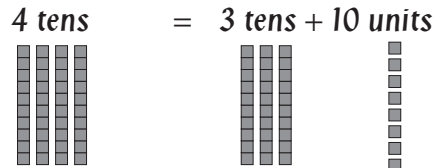
$$\begin{array}{r} 4794 \\ - 1370 \\ \hline \end{array}$$

- Keep the units, tens, hundreds and thousands in their own columns.
- Subtract the digits in each column, working from right to left.

Q.
$$\begin{array}{r} 545 \\ - 327 \\ \hline \end{array}$$

A.
$$\begin{array}{r} \text{hundreds} \quad \text{tens} \quad \text{units} \\ 545 \\ - 327 \\ \hline \end{array}$$

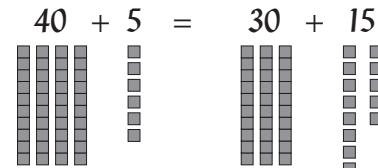
Units:
 $5 - 7 = ?$ units. The result is less than 0.
 To make the answer positive break down the 4 tens.



$$\begin{array}{r} 3 \quad 1 \\ 545 \\ - 327 \\ \hline \end{array}$$

8 *Units first!*

Re-group the 10 units with the 5 units to make 15 units.



Now...
 $15 - 7 = 8 \Rightarrow 8$ units

$$\begin{array}{r} 3 \quad 1 \\ 545 \\ - 327 \\ \hline \end{array}$$

2 1 8 *Tens next!*

Tens:
 $3 - 2 = 1 \Rightarrow 1$ ten

Hundreds:
 $5 - 3 = 2 \Rightarrow 2$ hundreds

a)
$$\begin{array}{r} 622 \\ - 28 \\ \hline \end{array}$$

6 0 4 *Units first!*

b)
$$\begin{array}{r} 444 \\ - 28 \\ \hline \end{array}$$

Units first!

c)
$$\begin{array}{r} 363 \\ - 207 \\ \hline \end{array}$$

d)
$$\begin{array}{r} 728 \\ - 46 \\ \hline \end{array}$$

e)
$$\begin{array}{r} 577 \\ - 183 \\ \hline \end{array}$$

f)
$$\begin{array}{r} 414 \\ - 65 \\ \hline \end{array}$$

g)
$$\begin{array}{r} 3648 \\ - 388 \\ \hline \end{array}$$

h)
$$\begin{array}{r} 2531 \\ - 407 \\ \hline \end{array}$$

i)
$$\begin{array}{r} 4591 \\ - 2435 \\ \hline \end{array}$$

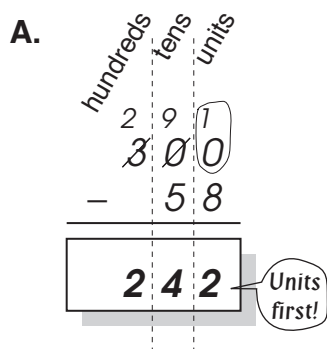
j)
$$\begin{array}{r} 5724 \\ - 3158 \\ \hline \end{array}$$

k)
$$\begin{array}{r} 9018 \\ - 4233 \\ \hline \end{array}$$

l)
$$\begin{array}{r} 4372 \\ - 1976 \\ \hline \end{array}$$

- Keep the units, tens, hundreds and thousands in their own columns.
- Subtract the digits in each column, working from right to left.

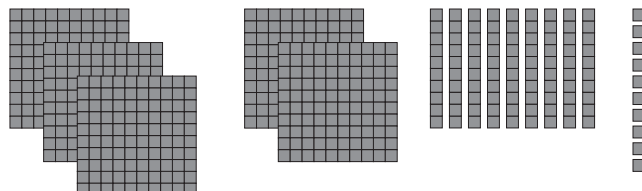
Q.
$$\begin{array}{r} 300 \\ - 58 \\ \hline \end{array}$$



Units:

$0 - 8 = ?$ units. The result is less than 0. To make the answer positive break down the 3 hundreds (no tens available).

$3 \text{ hundreds} = 2 \text{ hundreds} + 9 \text{ tens} + 10 \text{ units}$



Now...

$10 - 8 = 2 \Rightarrow 2 \text{ units}$

Tens:

$9 - 5 = 4 \Rightarrow 4 \text{ tens}$

Hundreds:

$2 - 0 = 2 \Rightarrow 2 \text{ hundreds}$

a)
$$\begin{array}{r} 8 & 10 \\ \cancel{9} & 0 \\ - & 7 \\ \hline 8 & 3 \end{array}$$

Units first!

b)
$$\begin{array}{r} 30 \\ - 4 \\ \hline \end{array}$$

Units first!

c)
$$\begin{array}{r} 60 \\ - 5 \\ \hline \end{array}$$

d)
$$\begin{array}{r} 40 \\ - 8 \\ \hline \end{array}$$

e)
$$\begin{array}{r} 400 \\ - 5 \\ \hline \end{array}$$

f)
$$\begin{array}{r} 600 \\ - 3 \\ \hline \end{array}$$

g)
$$\begin{array}{r} 500 \\ - 9 \\ \hline \end{array}$$

h)
$$\begin{array}{r} 200 \\ - 6 \\ \hline \end{array}$$

i)
$$\begin{array}{r} 20 \\ - 16 \\ \hline \end{array}$$

j)
$$\begin{array}{r} 50 \\ - 13 \\ \hline \end{array}$$

k)
$$\begin{array}{r} 70 \\ - 45 \\ \hline \end{array}$$

l)
$$\begin{array}{r} 80 \\ - 14 \\ \hline \end{array}$$

m)
$$\begin{array}{r} 300 \\ - 22 \\ \hline \end{array}$$

n)
$$\begin{array}{r} 700 \\ - 19 \\ \hline \end{array}$$

o)
$$\begin{array}{r} 900 \\ - 57 \\ \hline \end{array}$$

p)
$$\begin{array}{r} 800 \\ - 63 \\ \hline \end{array}$$