

Examples of Place Value Strategies

Add and Subtract Numbers in Expanded Form:

Add:

tens	ones	partials sums
43 → 40	+ 3	
34 → 30	+ 4	
57 → 50	+ 7	140
<u>+24</u> → <u>20</u>	<u>+ 4</u>	<u>+ 18</u>
140	18	158

Therefore, $43 + 34 + 57 + 24 = \underline{158}$

Subtract:

	Subtract the tens	+	Subtract the ones, regrouping if necessary	Combine the partial differences
52 →	50	+	2	30
<u>-19</u> →	<u>-10</u>	+	<u>-9</u>	<u>+ 3</u>
	40		3	33
	30			

Therefore, $52 - 19 = 33$.

Partial Sums Recorded Vertically:

43
34
57
<u>+24</u>
140 add the tens
<u>+ 18</u> add the ones
158 combine the partial sums

Therefore, $43 + 34 + 57 + 24 = \underline{158}$

Standard Algorithm for Addition:

add the ones place	add the tens place	add the hundreds place
1 ← regroup 18 ones to 1 ten and 8 one	1 1 ← regroup 15 tens to 1 hundred and 5 tens	1 1
4 3	4 3	4 3
3 4	3 4	3 4
5 7	5 7	5 7
<u>+ 2 4</u>	<u>+ 2 4</u>	<u>+ 2 4</u>
8	5 8	1 5 8

Therefore, $43 + 34 + 57 + 24 = \underline{158}$

Standard Algorithm for Subtraction:

regroup 5 tens to 4 tens and 12 ones

$$\begin{array}{r} 4 \ 12 \\ - 5 \ 2 \\ \hline - 1 \ 9 \\ \hline \end{array}$$

subtract the ones place

$$\begin{array}{r} 4 \ 12 \\ - 5 \ 2 \\ \hline - 1 \ 9 \\ \hline 3 \end{array}$$


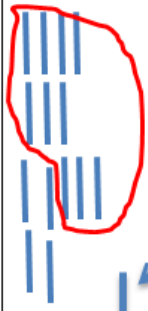

subtract the tens place

$$\begin{array}{r} 4 \ 12 \\ - 5 \ 2 \\ \hline - 1 \ 9 \\ \hline 3 \ 3 \end{array}$$

Therefore, $52 - 19 = 33$.

Base-Ten Model for Addition:

$43 + 34 + 57 + 24 =$

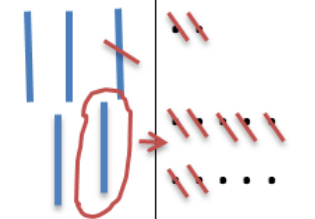

Hundreds	Tens	Ones
		
1 hundred	5 tens	8 ones

43	Regroup if Necessary
34	
57	
24	

Therefore, $43 + 34 + 57 + 24 = \underline{158}$

Base-Ten Model for Subtraction:

$52 - 19 = ?$

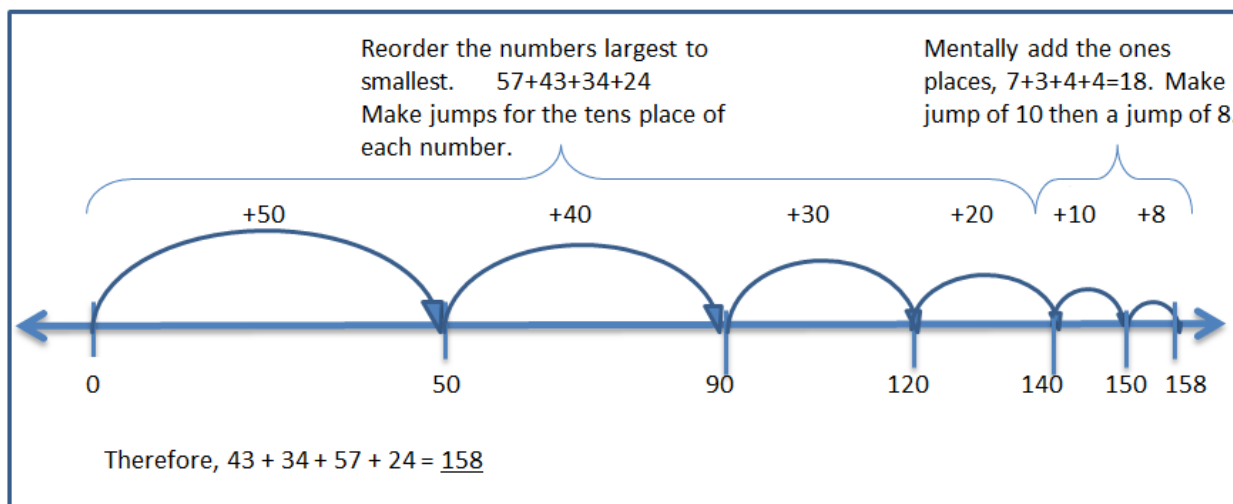
Tens	Ones
	
3 tens	3 ones

Regroup one
remove 1 ten and 9 ones

Therefore, $52 - 19 = 33$.

Open Number Line Addition:

$43 + 34 + 57 + 24 = \underline{\hspace{2cm}}$.



Open Number Line Subtraction:

$52 - 19 = \underline{\hspace{2cm}}$.

