

Addition Algorithms

Partial-Sums Method:

1. Add from left to right, one column (place value) at a time.
2. Use a different row for each place value.
3. Add your partial sums together.

$$\begin{array}{r} 1,483 \\ + 968 \\ \hline \end{array}$$

(thousands) $1,000 + 0 = 1,000$
(hundreds) $400 + 900 = 1,300$
(tens) $80 + 60 = 140$
(ones) $3 + 8 = \underline{(+)}11$
2,451

NOTE: If your addends (numbers) have **decimals**, make sure you line up the decimals **before** adding.



Column-Addition Method:

1. Put the numbers in columns (lining up the place values).
2. Add the numbers in each column.
3. Beginning with the right column (lowest place value), check to see if the number is a two-digit number. If it is, bring down the ones place and trade the 10s to the next highest place value.
4. Continue trading until each column has **only one number** in it. (Note: you may have to add another column on the left.)

2	1, 3	5	8	
+	9, 2	7	8	
2	10	5	12	16
2	10	5	13	6
2	10	6	3	6
3	0,	6	3	6

NOTE: If your addends (numbers you add together) have **decimals**, make sure you line up the decimals **before** adding.



Traditional Method (Short Method):

$$\begin{array}{r} 1 \\ 4,038 \\ + \underline{891} \\ 4,929 \end{array}$$

1. Add one column (place value) at a time, beginning at the right (smallest place value) and moving to the left. **Carry any 10s to the next column (next highest place value).**

NOTE: If your addends (numbers you add together) have **decimals**, make sure you line up the decimals **before** adding.



The Opposite-Change Rule:

$$\begin{array}{r} 129 (+1) = 130 \\ 122 (-1) = 121 \\ + \underline{48} \qquad + \underline{48} \\ \qquad \qquad \qquad 299 \end{array}$$

1. To make the numbers easier to add, **subtract** a number from one of the addends (number that's added). Try to choose a number that changes the ones place to "0."
2. **Add** the same number that you subtracted to another addend.
3. Add the addends together.

NOTE: If your addends (numbers you add together) have **decimals**, make sure you line up the decimals **before** adding.