

Methods of Adding Whole Numbers and Decimals

Models:

Whole Numbers (Three Digit Numbers):
 $273 + 458 = \underline{\hspace{2cm}}$

hundreds	tens	ones	
			$\begin{array}{r} 11 \\ 273 \\ +458 \\ \hline \end{array}$
			731

Other Ways to Use the Second Row:

7	3	1	731
700	30	1	731

Whole Numbers (5 Digits & Up)

Typically we do not use this method for numbers this large.

Decimals:
 $2.73 + 4.58 = \underline{\hspace{2cm}}$

$\square = 1$ $| = 0.1$ $\bullet = 0.01$

ones	tenths	hundredths	
			$\begin{array}{r} 11 \\ 2.73 \\ +4.58 \\ \hline \end{array}$
			7.31

Other Ways to Use the Second Row:

7	3	1	7.31
7	.3	.01	7.31

Decomposition:

Whole Numbers (Three Digit Numbers): $273 + 458 = \underline{\hspace{2cm}}$	Decimals: $2.73 + 4.58 = \underline{\hspace{2cm}}$	Decimals (Converted to Fractions)
$273 + 458$ $= (200 + 70 + 3) + (400 + 50 + 8)$ $= 200 + 70 + 3 + 400 + 50 + 8$ $= (200 + 400) + (70 + 50) + (3 + 8)$ $= 600 + 120 + 11$ $= (600 + 120) + 11$ $= 720 + 11$ $= 731$	$2.73 + 4.58$ $= (2 + .7 + .03) + (4 + .5 + .08)$ $= 2 + .7 + .03 + 4 + .5 + .08$ $= (2 + 4) + (.7 + .5) + (.03 + .08)$ $= 6 + 1.2 + .11$ $= (6 + 1.2) + .11$ $= 7.2 + .11$ $= 7.31$	This method is on the next page.
Whole Numbers (5 Digits and Up) $67,551 + 14,829 = \underline{\hspace{2cm}}$		

(Horizontal)

$$\begin{aligned}
 &67,551 + 14,829 \\
 &= (60,000 + 7,000 + 500 + 50 + 1) + (10,000 + 4,000 + 800 + 20 + 9) \\
 &= 60,000 + 7,000 + 500 + 50 + 1 + 10,000 + 4,000 + 800 + 20 + 9 \\
 &= (60,000 + 10,000) + (7,000 + 4,000) + (500 + 800) + (50 + 20) + (1 + 9) \\
 &= 70,000 + 11,000 + 1,300 + 70 + 10 \\
 &= (70,000 + 11,000) + (1,300 + 70 + 10) \\
 &= 81,000 + 1,380 \\
 &= 82,380
 \end{aligned}$$

(Vertical)

$$\begin{aligned}
 &60,000 + 7,000 + 500 + 50 + 1 \\
 &+ 10,000 + 4,000 + 800 + 20 + 9 \\
 &70,000 + 11,000 + 1,300 + 70 + 10 \\
 &= (70,000 + 11,000) + 1,300 + (70 + 10) \\
 &= 81,000 + 1,300 + 80 \\
 &= 82,380
 \end{aligned}$$

Decomposition (Continued):

Decimals (Converted to Fractions)

$$2.73 + 4.58$$

Method One:

$$\begin{aligned}
 &2.73 + 4.58 \\
 &= (2 + .7 + .03) + (4 + .5 + .08) \\
 &= \left(2 + \frac{7}{10} + \frac{3}{100}\right) + \left(4 + \frac{5}{10} + \frac{8}{100}\right) \\
 &= \boxed{2} + \frac{\boxed{7}}{10} + \frac{\boxed{3}}{100} + \boxed{4} + \frac{\boxed{5}}{10} + \frac{\boxed{8}}{100} \\
 &= (\boxed{2} + \boxed{4}) + \left(\frac{\boxed{7}}{10} + \frac{\boxed{5}}{10}\right) + \left(\frac{\boxed{3}}{100} + \frac{\boxed{8}}{100}\right) \\
 &= 6 + \frac{12}{10} + \frac{11}{100} \\
 &= 6 + \frac{\overbrace{10}^{10}}{10} + \frac{2}{10} + \frac{11}{100} \\
 &= 7 + \frac{2}{10} \left(\frac{\overbrace{10}^{10}}{10}\right) + \frac{11}{100} \\
 &= 7 + \frac{20}{100} + \frac{11}{100} \\
 &= 7 + \frac{31}{100} \\
 &= 7.31
 \end{aligned}$$

Method Two:

$$\begin{aligned}
 &2.73 + 4.58 \\
 &= 2 \frac{73}{100} + 4 \frac{58}{100} \\
 &= \left(2 + \frac{73}{100}\right) + \left(4 + \frac{58}{100}\right) \\
 &= 2 + \frac{73}{100} + 4 + \frac{58}{100} \\
 &= (2 + 4) + \frac{73}{100} + \frac{58}{100} \\
 &= 6 + \frac{70}{100} + \frac{3}{100} + \frac{50}{100} + \frac{8}{100} \\
 &= 6 + \left(\frac{70}{100} + \frac{50}{100}\right) + \left(\frac{3}{100} + \frac{8}{100}\right) \\
 &= 6 + \frac{120}{100} + \frac{11}{100} \\
 &= 6 + \frac{\overbrace{100}^{100}}{100} + \left(\frac{20}{100} + \frac{11}{100}\right) \\
 &= 7 + \frac{31}{100} \\
 &= 7.31
 \end{aligned}$$

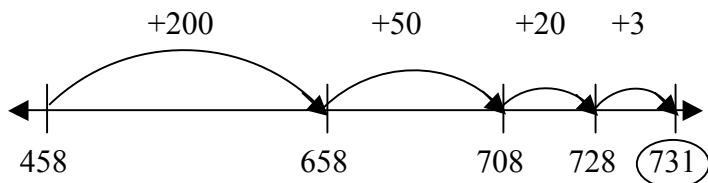
Partial Sums:

Whole Numbers (Three Digit Numbers): $273 + 458 = \underline{\hspace{2cm}}$	Decimals: $2.73 + 4.58 = \underline{\hspace{2cm}}$
$\begin{array}{r} 273 \\ + 458 \\ \hline 600 \leftarrow 200 + 400 \\ 120 \leftarrow 70 + 50 \\ + 11 \leftarrow 3 + 8 \\ \hline 731 \end{array}$ $\begin{array}{r} 273 \\ + 458 \\ \hline 11 \leftarrow 3 + 8 \\ 120 \leftarrow 70 + 50 \\ + 600 \leftarrow 200 + 400 \\ \hline 731 \end{array}$	$\begin{array}{r} 2.73 \\ + 4.58 \\ \hline .11 \leftarrow .03 + .08 \\ 1.2 \leftarrow .7 + .5 \\ + 6. \leftarrow 2 + 4 \\ \hline 7.31 \end{array}$ $\begin{array}{r} 2.73 \\ + 4.58 \\ \hline 1.2 \leftarrow .7 + .5 \\ 6. \leftarrow 2 + 4 \\ + .11 \leftarrow .03 + .08 \\ \hline 7.31 \end{array}$
Whole Numbers (5 Digits and Up)	$67,551 + 14,829 = \underline{\hspace{2cm}}$
$\begin{array}{r} 67,551 \\ + 14,829 \\ \hline 10 \leftarrow 9 + 1 \\ 70 \leftarrow 50 + 20 \\ 1,300 \leftarrow 500 + 800 \\ 11,000 \leftarrow 7,000 + 4,000 \\ + 70,000 \leftarrow 60,000 + 10,000 \\ \hline 82,380 \end{array}$	$\begin{array}{r} 67,551 \\ + 14,829 \\ \hline 70,000 \leftarrow 60,000 + 10,000 \\ 11,000 \leftarrow 7,000 + 4,000 \\ 1,300 \leftarrow 500 + 800 \\ 70 \leftarrow 50 + 20 \\ + 10 \leftarrow 9 + 1 \\ \hline 82,380 \end{array}$

Number Line:

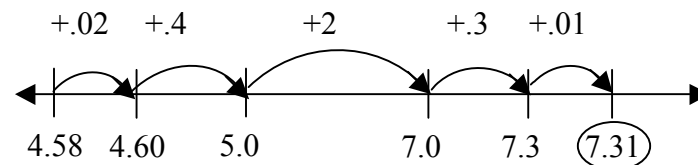
Whole Numbers (Three Digit Numbers):

$$273 + 458 = \underline{\quad}$$



Decimals:

$$2.73 + 4.58 = \underline{\quad}$$



Whole Numbers (5 Digits and Up)

$$67,551 + 14,829 = \underline{\quad}$$

