

1, 2, 3, 4, ...

x ÷ , + , -

$$\begin{array}{r} 45 \\ + 36 \\ \hline 81 \end{array}$$

$$\begin{array}{r} 399 \\ + 214 \\ \hline 613 \end{array}$$

$$\begin{array}{r} 28x \\ - 72 \\ \hline 209 \end{array}$$

$$\begin{array}{r} 59910 \\ \cancel{60000} \\ - 79 \\ \hline 5921 \end{array}$$

$$\begin{array}{r} 12 \\ 56 \\ \times 34 \\ \hline 224 \\ 1680 \\ \hline 1904 \end{array}$$

$$\begin{array}{r} 57r7 \\ 6 \overline{) 384} \\ \underline{55} \\ 784 \\ \underline{77} \\ 7 \end{array}$$

⁺² 1, ⁺² 3, ⁺² 5, 7, 9, 11, 13

^{x2} 3, ^{x2} 6, ^{x2} 12, ^{x2} 24, 48, 96

^{÷3} 273, ^{÷3} 81, ^{÷3} 27, 9, 3, 1

Whole Numbers Estimation

Quick way to check
for reasonableness

3 rules

To Estimate the sum / difference

Highest place value that
both numbers share

$$\begin{array}{r} 128 \quad 100 \\ + 297 + 300 \\ \hline 400 \end{array}$$

$$\begin{array}{r} 367 \quad 370 \\ + 32 \quad 30 \\ \hline 400 \end{array}$$

$$\begin{array}{r} \underline{3212} \\ - \underline{1197} \\ \hline \end{array} \quad \begin{array}{r} 3000 \\ - \underline{1000} \\ \hline 2000 \end{array} \quad \begin{array}{r} 321 \\ - \underline{97} \\ \hline \end{array} \quad \begin{array}{r} 320 \\ \underline{100} \\ \hline 220 \end{array}$$

Multiplication (Product)
"Leading Digit"

$$\begin{array}{r} 519 \quad 500 \\ \times 21 \quad \underline{20} \\ \hline 19,000 \end{array} \quad \begin{array}{r} 3679 \quad 4000 \\ \times 213 \quad \underline{200} \\ \hline 80000 \end{array}$$

$$\begin{array}{r} \downarrow \\ 81 \overline{) 563} \\ \downarrow \\ 563 \div 81 \end{array}$$

In division
Compatible
Works together

$$560 \div 80 = 7$$

$$\begin{array}{r} 72 \overline{) 4863} \\ \underline{- 70} \\ 70 \overline{) 4900} \end{array}$$

P 6 8-40 eoe
P 13-14 4-32 eoe, 40, 44