



Number & Place Value

310	Three hundred and ten.
500,310	Five hundred thousand, three hundred and ten.
6,500,310	Six million, five hundred thousand, three hundred and ten.
$3,545 > 3,445$	Order large numbers by comparing their largest digits.
$-3 + 6 = 3$	Use a number line to help solve negative number problems.
Decimals & Fractions	34.5 is the same as 34½ . Decimals and fractions are not whole numbers. Ensure you can add, subtract, multiply, divide and order both.
3,452 rounded to ...	Nearest hundred is 3,500, nearest thousand is 3,000.
34.52 rounded to ...	One decimal place is 34.5, nearest whole number is 35.

Calculations

Addition

$$\begin{array}{r} 34594 \\ + 45521 \\ \hline 5 \end{array} \rightarrow \begin{array}{r} 34594 \\ + 45521 \\ \hline 15 \\ 1 \end{array} \rightarrow \begin{array}{r} 34594 \\ + 45521 \\ \hline 115 \\ 1 \end{array} \rightarrow \begin{array}{r} 34594 \\ + 45521 \\ \hline 0115 \\ 1 \end{array} \rightarrow \begin{array}{r} 34594 \\ + 45521 \\ \hline 80115 \end{array}$$

Subtraction

$$\begin{array}{r} 64594 \\ - 45521 \\ \hline 3 \end{array} \rightarrow \begin{array}{r} 64594 \\ - 45521 \\ \hline 73 \\ 1 \end{array} \rightarrow \begin{array}{r} 64594 \\ - 45521 \\ \hline 073 \\ 1 \end{array} \rightarrow \begin{array}{r} 64594 \\ - 45521 \\ \hline 9073 \\ 5 \ 1 \end{array} \rightarrow \begin{array}{r} 64594 \\ - 45521 \\ \hline 19073 \\ 5 \ 1 \end{array}$$

Multiplication

$$\begin{array}{r} 4594 \\ \times 32 \\ \hline 8 \\ \hline 20 \end{array} \rightarrow \begin{array}{r} 4594 \\ \times 32 \\ \hline 88 \\ 1 \\ \hline 820 \\ 2 \end{array} \rightarrow \begin{array}{r} 4594 \\ \times 32 \\ \hline 188 \\ 1 \\ \hline 7820 \\ 1 \end{array} \rightarrow \begin{array}{r} 4594 \\ \times 32 \\ \hline 9188 \\ \hline 137820 \end{array} \rightarrow \begin{array}{r} 4594 \\ \times 32 \\ \hline 9188 \\ \hline + 137820 \\ \hline 147008 \\ 1 \ 1 \ 1 \end{array}$$

Division

$$6 \overline{) 8^2 0 7 6} \rightarrow 6 \overline{) 8^2 0^2 7 6} \rightarrow 6 \overline{) 8^2 0^2 7^3 6} \rightarrow 6 \overline{) 8^2 0^2 7^3 6}$$

BODMAS Order

Brackets > Order > Divide > Multiply > Add > Subtract
 $29 - 3 \times 8$ becomes $29 - 24 = 5$ but $(29 - 3) \times 8 = 208$.

Multiples & Factors

Multiples of 12 are 12, 24, 36, 48, 60...

Factors of 12 are 1, 2, 3, 4, 6 and 12.

Prime Numbers

Prime numbers have only **two** factors: 1 and itself.

Fractions

Improper Fractions

$\frac{19}{5}$ is an improper fraction (numerator > denominator).

Mixed Numbers

$3\frac{1}{5}$ is a **mixed number**.

Addition
Subtraction

$$\frac{1}{4} + \frac{1}{3}$$



$$\frac{\quad}{12} + \frac{\quad}{12}$$



Calculate numerators

$$\frac{3}{12} + \frac{4}{12}$$

Add / Subtract

$$= \frac{7}{12}$$

Common denominator

Multiplication

$$\frac{3}{4} \times \frac{2}{6} = \frac{6}{24} = \frac{1}{4}$$

Division

$$\frac{1}{4} \div \frac{2}{6} = \frac{1}{4} \times \frac{6}{2} = \frac{6}{8} = \frac{3}{4}$$

Units, Measures, Shapes & Geometry

Metric & Imperial

1cm = 10mm, 1m = 100cm, 1km = 1000m, 1l = 1000ml.
1ft = 12in, 1lb = 16oz, 1 gallon = 8 pints.

Time

1 minute = 60 seconds, 1 hour = 60 minutes.
1 day = 24 hours, 1 week = 7 days, 1 year = 365 days.

Perimeter, Area & Volume

Perimeter of all shapes: Total length of **all** the sides.

Square/Rectangle: **Area** = **Length** x **Width**.

Triangle: **Area** = $\frac{1}{2}$ x **Base** x **Height**.

Cube/Cuboid: **Volume** = **Length** x **Width** x **Height**.

Shapes (Sides: Shape)

5: Pentagon 6: Hexagon 7: Heptagon 8: Octagon

Shape Differences

Understand the difference between: Square & **Rectangle**,
Rhombus & **Parallelogram**, Trapezium & **Kite**.

Types of Triangle

Understand: Right angled, Isosceles, Equilateral & Scalene.

Parts of Circle

Understand: Circumference, Radius & Diameter.

