

Estimation

When we **estimate**, we use **approximate values** in a calculation to find an **approximate** answer. A good rule of thumb is to round to 1 significant figure.



Example

Estimate the answer to $\frac{57 \times 2.34}{0.45}$

Round everything to 1 significant figure.

Round up

$$57 = 60 \text{ (1sf)}$$

Round down

$$2.34 = 2 \text{ (1sf)}$$

Round up

$$0.45 = 0.5 \text{ (1sf)}$$

$$\frac{57 \times 2.34}{0.45} = \frac{60 \times 2}{0.5} = \frac{120 \times 10}{0.5 \times 10} = \frac{1200}{5} = 240$$

When dividing by a decimal, multiply by powers of 10 to make the divisor/denominator an integer (whole number).

Use short division:

$$\begin{array}{r} 0240 \\ 5 \overline{)1200} \end{array}$$

An alternative (quicker!) method is to recall that dividing by 0.5 is the same as multiplying by 2, so we can just calculate $120 \times 2 = 240$