

Number – Estimations and calculations

Estimation

1sf
one significant figure
one digit with zero's to keep
the number the right size

- Estimate to make sure your answer is sensible
- Round the numbers to 1sf
- Remember BIDMAS (or BODMAS)
- Show your working

Estimate

$$\frac{256.9 + 46.3^2}{(14.1 - 3.24)^2}$$

256.9 rounds to 300
46.3 rounds to 50
14.1 rounds to 10
3.24 rounds to 3

$$\begin{aligned} &\approx \frac{300 + 50^2}{(10 - 3)^2} \\ &= \frac{300 + 50^2}{7^2} \\ &= \frac{300 + 2500}{49} \\ &= \frac{2800}{49} \\ &\approx \frac{2800}{50} = 56 \end{aligned}$$

Brackets

Indices

Work out the
numerator

You can round again
to make it easier

$$\frac{256.9 + 46.3^2}{(14.1 - 3.24)^2} \approx 56$$

Calculate

$$\frac{256.9 + 46.3^2}{(14.1 - 3.24)^2}$$

$$\begin{aligned} &= \frac{256.9 + 46.3^2}{10.86^2} \\ &= \frac{256.9 + 2143.69}{117.9396} \\ &= \frac{2400.59}{117.9396} \\ &= 20.35440174 \end{aligned}$$

Always write down the
full calculator display in
case you don't round the
answer correctly

$$\frac{256.9 + 46.3^2}{(14.1 - 3.24)^2} = 20.4 \text{ (1dp)}$$

The answer is the right size
2.04 would be too small
204 would be too big