

Calculations involving significant digits

Addition + Subtraction

$$\begin{array}{r}
 125.472 \text{ cm} \\
 4.1 \text{ cm} \\
 + 32 \text{ cm} \quad \leftarrow \text{least precise place value.} \\
 \hline
 161.572 \text{ cm}
 \end{array}$$

We can only have 1 uncertain digit in the final answer.

162 cm

Round the final answer to the least precise place value used in the calculation.

Multiplication + Division

$$\begin{array}{r}
 253.1 \text{ m} \quad (4\text{sd}) \\
 \times 2.3 \text{ m} \quad (2\text{sd}) \\
 \hline
 7593 \\
 5062 \\
 \hline
 5802.13 \text{ m}^2
 \end{array}$$

You can only have 1 uncertain digit

~~580~~ m² → 5.8 × 10² m² (2sd)

better to write in scientific notation

Round the final answer to the least number of significant digits used in your calculation.

Summary: Add/Subtract ⇒ least # of decimal places
 Multiply/Divide ⇒ least # of sds.