

Part 2

1. Number	Decimal places	Significant Figures
$\overline{376}$	0	3
$\overline{376.0}$	1	4
$\overline{376.908}$	0	6
$\overline{3760000}$	0	3
$0.\overline{376}$	3	3
$0.\overline{376000}$	6	6
$\overline{3.76} \times 10^{-6}$	2	3

2.  $(\overline{2.413})(17.675) = 43.0$

3.  $(\overline{2.479h})(60 \text{ min/h}) = 100$

4.  $1725.463 - 489.2 + 6.73 = 1243.0$

5.  $903000 + 54600 + 104470 = 1067070$

Part 3

## 1. Define Error and uncertainty

Error: Difference between measured value and true value

Uncertainty: Difference between measured value and ideally measured value.

If your model is accurate, uncertainty and error are the same thing.

## 2. One-unit rule:

When there is no uncertainty range given, it is assumed to be  $\pm 1$  of the least significant significant figure

## One-tenth rule

When using an analog measurement such as a ruler, the uncertainty is  $\pm 1$  the digit past the least significant significant digit

## 3. Define precision and accuracy

Precision is the ability to hit the same spot every time.

Accuracy is the ability to average over the correct spot.