

ASSIGNMENT: Accuracy, Precision and Uncertainty

1. a) 1
b) 2
c) 1
d) 1

8. a) $4000\text{ mL} \pm 250\text{ mL}$
b) $600\text{ mL} \pm 50\text{ mL}$
c) $3400\text{ mL} \pm 300\text{ mL}$

2. precision: 1 cm
uncertainty: $\pm 0.5\text{ cm}$

9. total length
 $= 130 \pm 1.5\text{ cm}$

3. precision: 0.1 km
uncertainty: $\pm 0.05\text{ km}$

She cannot assume
they will fit \Rightarrow may
be wider than space
available

4. a) 1 cm
b) $11\text{ cm} \pm 0.5\text{ cm}$

5. a) precision: 10°C
uncertainty: $\pm 5^\circ\text{C}$
b) max: 165°C
min: 155°C

6. a) $175\text{ cm} \pm 0.5\text{ cm}$ OR $1.75\text{ m} \pm 0.005\text{ m}$
b) $174.5\text{ cm to } 175.5\text{ cm}$ OR $1.745\text{ m to } 1.755\text{ m}$

7. a) precision: 0.01 g
uncertainty: $\pm 0.005\text{ g}$
b) max: 14.96 g
min: 14.94 g