

Limits of Accuracy (Bounds)

Practice Worksheet

I DO

The length of a table is measured as 1.6 metres correct to one decimal place.

- (a) Write down the upper bound of the length of the table.
- (b) Write down the lower bound of the length of the table.

WE DO

The mass of a bag is measured as 4.2 kg correct to one decimal place.

- (a) Write down the upper bound of the mass of the bag.
- (b) Write down the lower bound of the mass of the bag.

YOU DO 1

The height of a door is measured as 2.1 metres correct to one decimal place.

- (a) Write down the upper bound of the height.
- (b) Write down the lower bound of the height.

YOU DO 2

The volume of water in a jug is measured as 5.8 litres correct to one decimal place.

- (a) Write down the upper bound.
- (b) Write down the lower bound.

CHALLENGE

A length, L cm, is measured as 14 cm correct to the nearest centimetre.

Write down the error interval for the length L .

PRACTICE PERFECT

Solve the following limits of accuracy problems.

- 1) Zoe measures a piece of wood as 45 cm correct to the nearest cm. Write down the lower bound.
- 2) John weighs a parcel as 3.4 kg correct to 1 decimal place. Write down the upper bound.
- 3) Emma measures a room's length as 6 m correct to the nearest metre. Write down the error interval for the length l .
- 4) Paul runs a race in 12.8 seconds correct to 1 decimal place. Write down the lower bound.
- 5) Paige measures a temperature as 20°C correct to the nearest 10°C . Write down the upper bound.
- 6) Vicky measures the volume of a liquid as 400 ml correct to the nearest 100 ml. Write down the lower bound.
- 7) Tom records a distance as 5.62 km correct to 2 decimal places. Write down the upper bound.
- 8) Rob measures a weight as 7.0 kg correct to 1 decimal place. Write down the error interval for the weight w .
- 9) Sophie times a journey as 45 minutes correct to the nearest 5 minutes. Write down the lower bound.
- 10) Mark measures a fence panel as 180 cm correct to the nearest 10 cm. Write down the upper bound.
- 11) Katie weighs an apple as 120 g correct to the nearest 10 g. Write down the error interval for the weight x .
- 12) Steve measures a wire as 3.14 m correct to 2 decimal places. Write down the lower bound.

ANSWERS & WORKED SOLUTIONS

I Do

- (a) 1.65 m
- (b) 1.55 m

We Do

- (a) 4.25 kg
- (b) 4.15 kg

You Do 1

- (a) 2.15 m
- (b) 2.05 m

You Do 2

- (a) 5.85 litres
- (b) 5.75 litres

Challenge

$$13.5 \leq L < 14.5$$

Practice Perfect

- | | |
|------------------------|-------------------------|
| 1) 44.5 cm | 2) 3.45 kg |
| 3) $5.5 \leq l < 6.5$ | 4) 12.75 seconds |
| 5) 25°C | 6) 350 ml |
| 7) 5.625 km | 8) $6.95 \leq w < 7.05$ |
| 9) 42.5 minutes | 10) 185 cm |
| 11) $115 \leq x < 125$ | 12) 3.135 m |