



1. A can of drink weighs 342 g to the nearest gram.

- (a) What are the minimum and maximum weights of the can?
(2)
- (b) The cans are sold in packs of 12
What are the minimum and maximum weights of a pack of cans?
(2)

(Total 4 marks)

2. Cases each weigh 20 kg to the nearest kilogram.

What is the least that six cases could weigh?

(Total 2 marks)

3. A crane has a cable with a breaking strain of 5300 kg measured to 2 significant figures.
It is used to lift crates which weigh 100 kg measured to the nearest 10 kg.

What is the greatest number of crates that can be lifted at one time so that the cable does not break?

(Total 4 marks)

4. A boy runs 50 metres at a speed of 5 m/s.
Both values are measured to an accuracy of one significant figure.
What is the least possible time taken?

(Total 3 marks)

5. Tim fits television aerials in houses.
He buys 100 metres of television cable.
Each house needs 10 metres of television cable.

The length of cable which Tim buys is correct to the nearest metre.
The length of cable needed for each house is correct to the nearest half metre.

After working on nine houses, what is the minimum length of cable which Tim could have left?
You **must** show your working.

(Total 5 marks)

6. A circle has an area of 100 cm^2 , measured to the nearest square centimetre.
What is the lower bound of the radius?

(Total 3 marks)

7. A coffee machine dispenses 130 millilitres of black coffee into cups with a capacity of 175 millilitres.
These values are accurate to 3 significant figures.

Milk is supplied in small cartons which contain 21 millilitres,
accurate to the nearest millilitre.

Beryl likes milky coffee and always puts 2 cartons of milk in her coffee.

Will Beryl's cup ever overflow?

You **must** show all your working.



(Total 4 marks)

8. Assume the Earth to be a sphere of diameter 12 800 km to an accuracy of 3 significant figures.
Land covers 28.2% of the Earth's surface to an accuracy of 1 decimal place.

Calculate the lower bound of the area of land on the Earth's surface.
Give your answer in standard form to an appropriate degree of accuracy.

(Total 6 marks)