



General practice

QT Bounds

1. A rectangle has a length of 14cm, correct to the nearest cm, and a width of 4.3cm, correct to the nearest mm.

- a) Calculate the upper bound for the **perimeter** of the rectangle.
- b) Calculate the lower bound for the **area** of the rectangle.

2. A circle has a radius of 14cm, correct to the nearest cm.

- a) Calculate the upper bound for the **circumference** of the circle. Give your answer in terms of π .
- b) Calculate the upper bound for the **area** of the circle. Give your answer in terms of π .

3. In the formula $D = ST$

$S = 15.93$ correct to 2 decimal places

$T = 1.556$ correct to 3 decimal places

Calculate the upper bound for D . Give your answer to 3 decimal places.



4. In the formula $s = \frac{d}{t}$

$d = 6.73$ correct to 2 decimal places

$t = 3.456$ correct to 3 decimal places

Calculate the upper bound for s . Give your answer to 3 decimal places.

5. In the formula $v^2 = u^2 + 2as$

$v = 48.35$ correct to 2 decimal places

$a = 9.81$ correct to 2 decimal places

$s = 45.2$ correct to 1 decimal place

Calculate the upper bound for u . Give your answer to 3 decimal places.

6. A coffee machine dispenses 130ml of black coffee into cups with a capacity of 175ml. These values are correct to 3 significant figures.

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

Beryl likes milky coffee and always uses 2 cartons of milk.

Will Beryl's cup ever overflow?

You **must** show your working.