

AQA, OCR, Edexcel

GCSE

GCSE Maths

Estimating Answers

Name:

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Total Marks: /17

Estimation and Bounds

1. Approximate the value of the following quantities:

a. $\frac{0.99 \times 101}{3.9 \times 5.2} = 5$

b. $\frac{1.98 \times 299}{0.51} = 1200$

c. $\frac{0.97 + 101}{3.21 + 16.7} = 5$

(6 Marks)

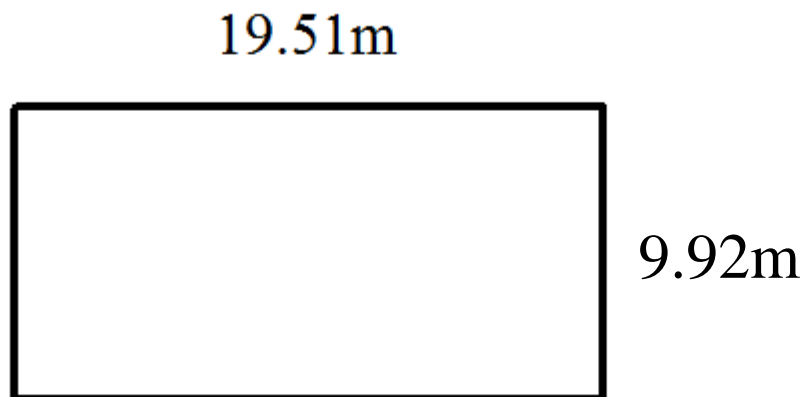
2. A tube has a height of 9.50 cm and a radius of 0.98cm.

Give an estimate for the volume of the tube in cm^3 . Leave your answer in terms of π .

$$= \pi \times (1)^2 \times 9.5 = 9.5\pi$$

(2 marks)

3. A diagram of a farmer's field is shown below:



- a. Calculate an estimate for the area of the field. = $195m^2$
b. Each cow needs at least $4.5m^2$ of room in a field, use your answer to part a to estimate the maximum number of cows which can be placed in the field. = *39 cows*
- (5 Marks)

4. Look at the following calculation:

$$\frac{467.2 \times 36.1}{21.3 \times 5.4}$$

- a. By rounding each number to 1 significant figure calculate an estimate to the calculation above. = 200
b. Will your answer to part a be larger or smaller than the exact answer? Explain your answer.

The answer to part a is larger. This is because we round both numbers in the product in the numerator up and round both numbers in the product in the denominator down. A larger number divided by a smaller number is a larger number.

(4 Marks)