



EXAM PAPERS PRACTICE

GCSE OCR Math J560

Rounding and
Estimation

Question Paper

*"We will help you to
achieve A Star "*



Question 1

Competition

a prize every 2014 seconds

In a competition, a prize is won every 2014 seconds.

Work out an estimate for the number of prizes won in 24 hours.

You must show your working.

[4 marks]

Question 2

Margaret has some goats.

The goats produce an average total of 21.7 litres of milk per day for 280 days.

Margaret sells the milk in $\frac{1}{2}$ litre bottles.

Work out an estimate for the total number of bottles that Margaret will be able to fill with the milk.

You must show clearly how you got your estimate.

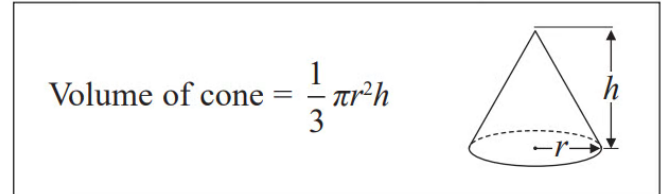
[3 marks]



Question 3

A cone has a volume of 98 cm^3 .
The radius of the cone is 5.13 cm .

- (a) Work out an estimate for the height of the cone.



[3 marks]

Question 4

The mass of Jupiter is $1.899 \times 10^{27} \text{ kg}$.
The mass of Saturn is 0.3 times the mass of Jupiter.

- (a) Work out an estimate for the mass of Saturn.
Give your answer in standard form.

[3 marks]

Question 5

John uses a calculator to work out the height of the cone to 2 decimal places.

- (b) Will your estimate be more than John's answer or less than John's answer?
Give reasons for your answer.

[1 mark]



Question 6

Work out an estimate for $\frac{31 \times 9.87}{0.509}$

[3 marks]

Question 7

A cycle race across America is 3069.25 miles in length.

Juan knows his average speed for his previous races is 15.12 miles per hour. For the next race across America he will cycle for 8 hours per day.

(a) Estimate how many days Juan will take to complete the race.

[3 marks]

Question 8

One uranium atom has a mass of 3.95×10^{-22} grams.

(a) Work out an estimate for the number of uranium atoms in 1 kg of uranium.

[3 marks]



Question 9

Work out an estimate for $\sqrt{4.98 + 2.16 \times 7.35}$

[3 marks]

Question 10

Juan trains for the race.
The average speed he can cycle at increases.
It is now 16.27 miles per hour.

(b) How does this affect your answer to part (a)?

[1 mark]



Question 11

Sanders has a water tank for storing rainwater.

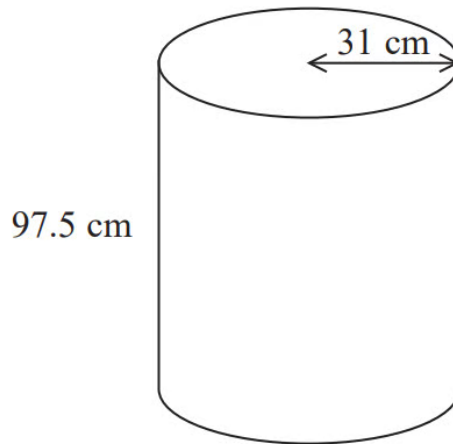


Diagram **NOT**
accurately drawn

The tank is in the shape of a cylinder.
The radius of the cylinder is 31 cm.
The height of the cylinder is 97.5 cm.

The tank is full of water.

Work out an estimate for the volume of water in the tank.
Give your answer in litres.
You must show your working.

Use $1000 \text{ cm}^3 = 1 \text{ litre}$.

[3 marks]