



# EXAM PAPERS PRACTICE

GCSE Edexcel Math

1MA1

Rounding & Estimation

Question Paper

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



**Question 1**

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

[3 marks]

**Question 2**

**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.

[ marks]

**Question 3**

(b) Give evidence to show whether your answer to (a) is an underestimate or an overestimate.

[1 mark]



**Question 4**

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 5**

The mass of Jupiter is  $1.899 \times 10^{27}$  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 6**

Sanders has a water tank for storing rainwater.

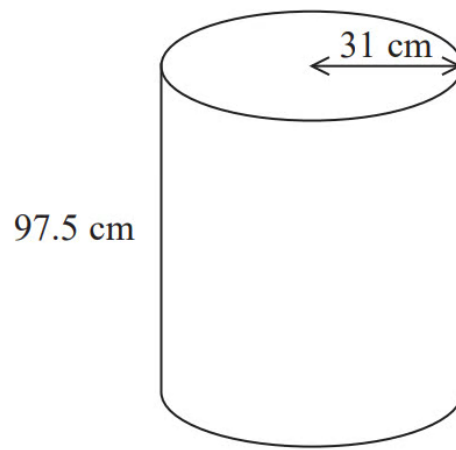


Diagram **NOT**  
accurately drawn

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]



**Question 7**

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 8**

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 9**

- (b) Is your answer to (a) an underestimate or an overestimate?  
Give a reason for your answer.

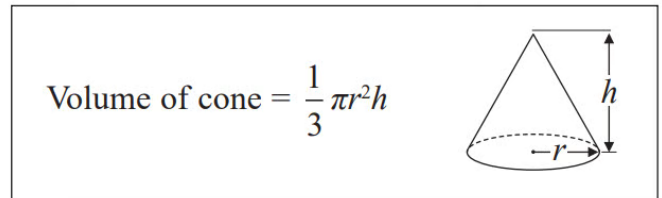
[1 mark]



**Question 10**

A cone has a volume of  $98 \text{ cm}^3$ .  
The radius of the cone is  $5.13 \text{ cm}$ .

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



[3 marks]

**Question 11**

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 12**

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

- (a) Work out an estimate for the number of uranium atoms in  $1 \text{ kg}$  of uranium.

[3 marks]



**Question 13**

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

[3 marks]