

Student's Name _____

Class _____

Teacher's Name _____



TRINITY GRAMMAR SCHOOL
MATHEMATICS DEPARTMENT



YEAR 10 MATHEMATICS

ASSESSMENT TASK 2

27TH FEBRUARY, 2006

TIME ALLOWED: 60 MINUTES

ASSESSMENT WEIGHTING: 20%

Instructions:

- i) Do not open this paper until instructed.
- ii) Write your name, class and your teacher's name at the top of the page.
- iii) Marks for each question are indicated on the paper.
- iv) In order to obtain full marks for any question, full working must be shown.

MARKS

Simultaneous Eqns/24	Vol, Surface Area/24	Trig, Consumer/12	Total/60

SIMULTANEOUS EQUATIONS.

Question 1.

4 Marks

Solve simultaneously:

$$\begin{aligned} y &= 10 && \text{--- (1)} \\ 3x + 2y &= 41 && \text{--- (2)} \end{aligned}$$

Question 2.

4 Marks

Solve simultaneously:

$$\begin{aligned} 3x + y &= 14 \\ x - y &= 6 \end{aligned}$$

Question 3.

5 Marks

Solve simultaneously:

$$\begin{aligned} 3x + 2y &= 4 && \times 2 \\ 2x + 5y &= 21 && \times 3 \end{aligned}$$

Question 4.

5 Marks

Solve simultaneously:

$$y = 4 - 3x \quad \text{--- ①}$$

$$4x - y = 10 \quad \text{--- ②}$$

Question 5.

6 Marks

From the following information, form a pair of simultaneous equations, then solve the equations.

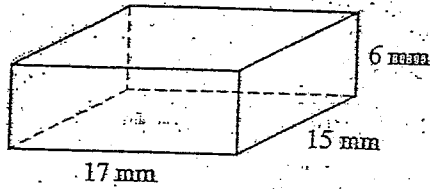
The cost of tickets for a stage show is \$50 for adults and \$30 for children. A total of 3500 people (adults and children) attended. The total from ticket sales was \$ 145 000. How many adults and how many children attended?

VOLUME AND SURFACE AREA

Question 6.

2 marks

Calculate the volume of the prism shown in cubic millimetres.
Convert your answer into cubic centimetres.



Question 7.

2 Marks

Calculate the volume of a cylinder of radius 10 cm, height 15 cm. Give your answer correct to 2 decimal places.

Question 8.

3 Marks

Calculate the volume of a square pyramid with base edge 22.4 cm, perpendicular height 60.6 cm. Give your answer correct to the nearest whole number.

Question 9.

2 Marks

A cube has a volume of 10,000 cubic centimetres. Calculate the length of its edge, answer correct to 2 decimal places.

Question 10.

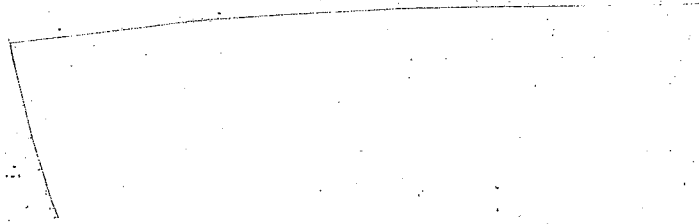
2 Marks

Calculate the volume of a hemisphere, radius 15 cm. Answer correct to 3 decimal places.

Question 11.

3 Marks

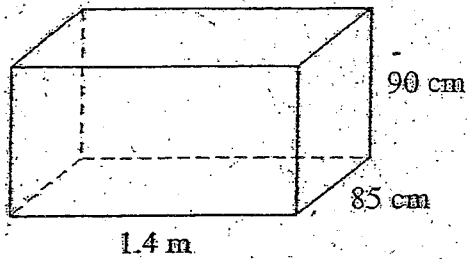
Calculate the surface area of a closed cylinder, radius 15 cm, length 60 cm. Answer correct to the nearest whole number



Question 12.

3 Marks

Calculate the surface area of the solid shown below. Give your answer in square metres, correct to 2 decimal places.

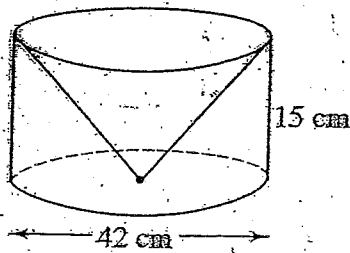


Question 13.

3 Marks

A cylinder has a cone cut out as shown.

- a) What fraction of the volume of the cylinder remains?
- b) Calculate the remaining volume, correct to the nearest cubic centimetre.



Question 14.

4 Marks

Calculate the surface area of the solid shown below. Give your answer correct to the nearest whole number.

