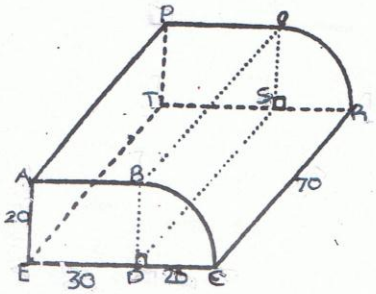
CXC MENSURATION QUESTIONS

58) [Dec/91]
A closed storage container consists of a cuboid, ABDEPQST, to which a quadrant of a cylinder, BCDQRS, is attached as shown in the diagram.

AE=20 cm, ED=30 cm, DC=20 cm and CR=70 cm.
Taking π to be 3.142, and giving each answer correct to 3 significant figures, calculate



(a) the area of the face ABCDE,

(b) the volume of the container [5 mks]

59) [Dec/92]

The diagram shows the cross-section of a swimming pool. The pool is 25 m long, 1 m deep at one end and 2 m deep at the other end. The bottom slopes uniformly from one end to the other.

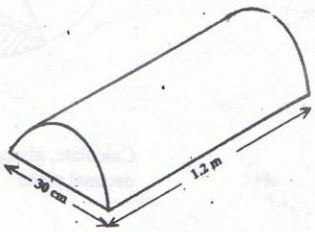
Water enters the pool at a constant rate and, from empty, the time taken to fill the pool completely is 3 hours.

(a) Find the area of the cross-section of the pool.

(b) Find the time taken to fill the pool to th depth of one metre at the deep end.

(c) Find the depth of the water at the deep end after 2 hours.

60) [Jan/04/4b]
The diagram below, **not drawn to scale,** sho a block of wood in the shape of a semi-circul prism. The cross section of the prism is semi-circle with diameter 30 cm. The length of the prism is 1.2 metres.



Use =3.14.

Calculate, giving your answer to 3 significant figures

i) the area, in cm^2, of the cross section.

ii) the volume, in cm^3, of th prism. [5 mks]

61) [Jun/04/7a]
A piece of wire is bent in the form of a circl and it encloses an area of $154cm^2$

(i) Calculate

a) the radius of the circle

b) the circumference of the circle.

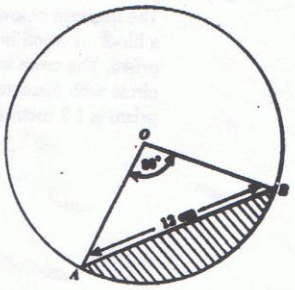
(Use $= \frac{22}{7}$

The same piece of wire is then bent in the fo of a square.

ii) Calculate the area enclosed by the square.

63) **[Jan/04/11]**

In the diagram below, not drawn to scale, o is the centre of the circle. Angle AOB = 80 and AB 12 cm.



Calculate, giving your answer correct to 2 decimal place

i. **the radius of the circle**

ii. **the area of the minor sector AOB**

iii. **the area of the shaded region**