TEST PAPER: MATHEMATICS

Time: 50 Minutes **Class:** 10th I.C.S.E.

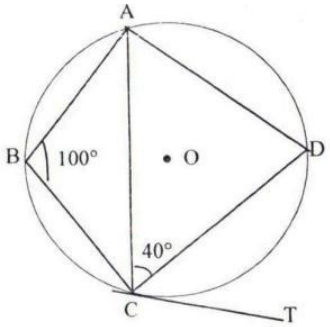
Max. Marks: 30 Marks **Date:** 10th October, 2018

Marking Scheme: *Three questions carry 10 marks each. Questions have 3 subparts each. Subparts (a) and (b) carry 3 marks each and subpart (c) carries 4 marks.*

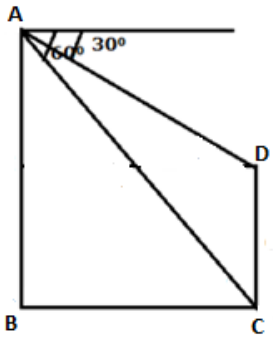
Question 1:

a. If the length, breadth and height of a solid cube are in the ratio 4 : 3 : 2 and total surface area is 832 cm^2. Find its volume.

b. In the given circle with centre O, $\angle ABC = 100^0$, $\angle ACD = 40^0$ and CT is a tangent to the circle at C. Find $\angle ADC$ and $\angle DCT$.



c. In the figure given, from the top of a building AB = 60 m high, the angles of depression of the top and bottom of a vertical lamp post CD are observed to 30^o and 60^o respectively. Find:
(i) The horizontal distance between AB and CD.
(ii) The height of the lamp post.

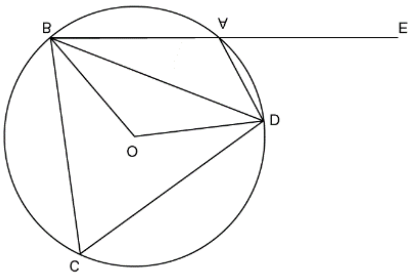


Question 2:

a. A metallic sphere of radius 4.2 cm is melted and recast into the shape of a cylinder of radius 6 cm. Find the height of the cylinder.

b. A solid sphere of radius 15 cm is melted and recast into solid right circular cones of radius 2.5 cm and height 8 cm. Calculate the number of cones recast.

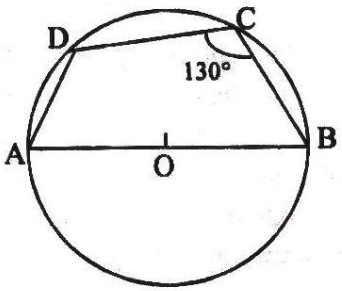
c. In the figure given, O is the centre of the circle. $\angle DAE = 70^0$, Find giving suitable reasons the measure of:
(i) $\angle BCD$ (ii) $\angle BOD$ (iii) $\angle OBD$



Question 3:

a. The angles of depression of two ships A and B as observed from the top of a light house 60 m high are 60^0 and 45^0 respectively. If the two ships are on the opposite sides of the light house, find the distance between the two ships.

b. In the given figure, AB is the diameter of a circle with centre O. $\angle BCD = 130^o$. Find:
(i) $\angle DAB$
(ii) $\angle DBA$



c. A girl empties a cylinderical bucket, full of sand, of base radius 18 cm and height 32 cm, on the floor to form a conical heap of sand. If the height of this conical heap is 24 cm, then find its slant height.