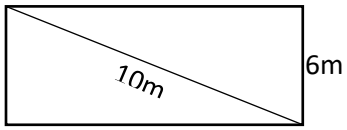
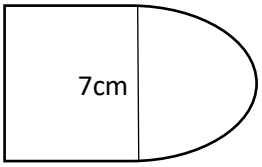
EBS 124/124J: COLLEGE GEOMETRY

END-OF-SECOND SEMESTER QUIZ II

1. The perimeter of the rectangular plot shown below is _____.
   A. 28m
   B. 32m
   C. 48m
   D. 136m

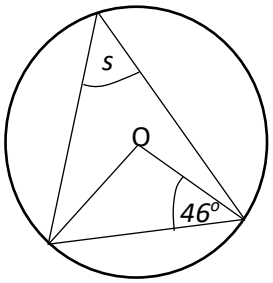


2. Determine the perimeter of the figure shown below which is made up of a square and a semi-circle of diameter 7cm.
   A. 32cm
   B. 28cm
   C. 21cm
   D. 14cm

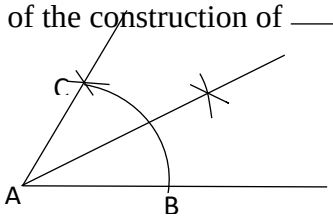


3. The chord that passes through the center of a circle is called _____.
   A. Segment
   B. Sector
   C. Radius
   D. Diameter
4. The region in a circle enclosed by two radii and an arc is called _____.
   A. Chord
   B. Sector
   C. Segment
   D. Semi-circle
5. How much water [in litres (l)] can the cylindrical polytank of base radius of 3.5m and height 5m hold? (Take $\pi \approx \frac{22}{7}$)
   A. 19,250l
   B. 192,500l
   C. 1925,000l
   D. 19,250,000l
6. What is the volume of a solid wooden cylinder of base diameter 282cm and height 60cm? (Take $\pi \approx \frac{22}{7}$). Leave your answer in **3 significant figures.**
   A. 3749000cm^3
   B. 3748000cm^3
   C. 3,750,000cm^3
   D. 3,800,000cm^3
7. Establish the relationship between the volume of a cylinder and that of a cone if they are of the same radius (***r*** cm) and height (***h*** cm).
   A. Volume of the cylinder is a third of the volume of the cone
   B. Volume of the cylinder is three times the volume of the cone
   C. Volume of the cone is three times the volume of the cylinder
   D. Volume of the cone is a half of the volume of the cylinder

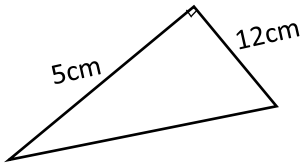
8. The total surface area of a cylinder with base radius ***r*** and height ***h*** and closed at only one end is given by_____.
   A. $2rh + \pi r^2 h$
   B. $2\pi r + \pi r^2 h$
   C. $2\pi rh + \pi r^2 h$
   D. $2\pi rh + \pi r^2$
9. Which of these parts of a circle can be used to make or model a cone?
   A. Diameter
   B. Radius
   C. Sector
   D. Segment
10. To construct a circumscribed circle of a drawn triangle ABC, a student must first_____.
   A. Construct 60^o at points A, B and C
   B. Draw a circle to pass through points A, B and C.
   C. Construct angle 90^o at A.
   D. Bisect the three sides of the triangle.
11. An inscribed circle of a triangle is a circle that _____ .
   A. Divides the triangle into three equal parts
   B. Passes through the three vertices of the triangle
   C. Touches the three sides of the triangle
   D. Passes through the center of the triangle
12. The arc of a circle of radius 140cm subtends an angle of 60^o. Calculate the length of the minor arc of the circle.
   A. 146.7 m
   B. 152.0 m
   C. 670.3 m
   D. 199.2 m
13. What is the curved area of a cylinder of radius 3.5cm and height 10cm? (Take $\pi \approx \frac{22}{7}$).
   A. $220m^2$
   B. $200m^2$
   C. $120m^2$
   D. $100m^2$
14. The diagram below is a circle containing two triangles. The centre of the circle of circle is labelled O. What is the value of the angle marked ***s***?
   A. 23^o
   B. 44^o
   C. 46^o
   D. 92^o



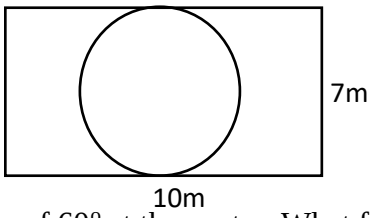
15. The $< BAC$ is a sketch of the construction of _____ .
   A. 90^o
   B. 60^o
   C. 30^o
   D. 15^o



16. Find the value of x given that the longest side of a right-angled triangle shown below is $2x + 1$?
    A. 13cm
    B. 10cm
    C. 7cm
    D. 6cm



17. What is the relationship between two perpendicular lines each of gradient, m_1 and m_2 respectively?
    A. $m_1 + m_2$
    B. $m_1 m_2 = -1$
    C. $\frac{m_1}{m_2} = -1$
    D. $m_1 - m_2 = -1$
18. How many diameters has a circle?
    A. 1
    B. 2
    C. 3
    D. Uncountable
19. Compute the area of the region unenclosed by the circle but in the rectangle shown in the figure below **to the nearest meter squared**. (Take $\pi = \frac{22}{7}$).
    A. $15m^2$
    B. $32m^2$
    C. $39m^2$
    D. $60m^2$



20. An arc length of a circle of radius 14cm subtends an angle of 60^o at the center. What fraction of the circumference of the circle is the major arc?
    A. $\frac{1}{2}$
    B. $\frac{1}{3}$
    C. $\frac{5}{6}$
    D. $\frac{7}{30}$