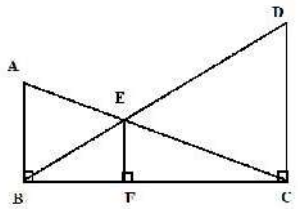
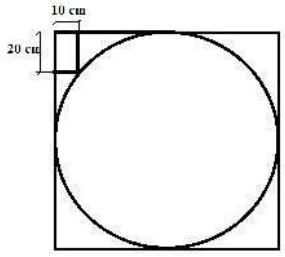
8-Geometry & Mensuration

1) The wheel of a motorcar makes 1000 revolutions in moving 550m. Find the diameter of wheel.
a) 18 cm b) 20 cm c) 17.5 cm d) 18.5 cm
2) In parallelogram ABCD, AP and BP are the angle bisectors of ∠DAB and ∠ABC. Find ∠APB.
a) 85^0 b) 90^0 c) 70^0 d) 80^0 e) 95^0
3) In a trapezium PQRS, PQ is parallel to RS and PQ=10cm and RS=20cm. What is the length of the line UV which is parallel to PQ and RS and divides the distance between them in the ratio 2:3 respectively?
a) 15 cm b) 12 cm c) 14 cm
d) 16 cm e) 10 cm



4)
In the above figure, AB = 10 cm, CD = 40 cm, Find EF.
a) 5 b) 6 c) 8 d) 4

5) Sum of the interior angles of a polygon is 1620. How many sides does polygon have?
a) 12 b) 11 c) 10 d) 9 e) 8
6) In the diagram find the radius of the circle.
a) 10 cm b) 50 cm c) 40 cm
d) 60 cm e) 30cm



7) T is an obtuse angle triangle. Two of its sides are 7 cm and 13 cm. How many possibilities exist for T such that the third side has an integral measure?
a) 12 b) 7 c) 16 d) 19 e) 15
8) The area of similar triangles ABC and XYZ are 54 sq.cm and 150 sq.cm respectively. Find the perimeter of triangle XYZ, if the perimeter of the triangle ABC is 36 cm.
a) 100 cm b) 30 cm c) 50 cm
d) 60 cm e) 70 cm
9) How far from the centre of a circle of diameter 170 cm is the chord 26 cm long?
a) 84 cm b) 85 cm c) 82 cm
d) 83 cm e) 81 cm
10) A horse is put outside a fenced rectangular plot 60m×20m and is tethered to one of the corners of the plot by rope of length 30m. Find the total area that it can graze.
a) 600π sq.m. b) 750π sq.m. c) 700π sq.m.
d) 500π sq.m. e) None of these
11) A solid sphere is cut into 8 identical pieces by three mutually perpendicular cuts. By what percentage is the sum of total surface area of the eight pieces more than the total surface area of the original sphere?
a) 125% b) 150% c) 175% d) 200%
12) Find the perimeter of the semicircle whose radius is 35 cm.
a) 110 cm b) 150 cm c) 180 cm
d) 220 cm e) None of these
13) If the distance between the tops of two poles with lengths 13.42 m and 8.484 m both standing erect, is 6.17 m. Find the distance between their bases.
a) 1.234 m b) 3.702 m c) 4.936 m
d) 2.468 m e) None of these
14) A swimming pool 100 m long and 40 m wide is 1 m deep at the shallow end and 5m at deep end. Find the volume of water contain in the pool?
a) 10000 cu.m. b) 12000 cu.m c) 15000 cu.m
d) 12500 cu.m e) 13500 cu.m
15) Radius and height of a right cylinder are each increase by 10%. Find the percentage increase in its volume.
a) 30% b) 33.33% c) 33.1%
d) 300% e) None of these
16) A conical cup when filled with ice-cream forms a hemispherical shape on its open end. Find the approximate volume of ice-cream. If the radius of the base of the cone is 3.5 cm and the vertical height of cone is 7 cm.
a) 165 cm^3 b) 185 cm^3 c) 170 cm^3
d) 175 cm^3 e) 180 cm^3
17) The minute hand of a clock is 24.5 cm long. Find the area swept by it between 10:10 am and 10:40 am of the same day.
a) 900 sq.cm b) 948.75 sq.cm
c) 943.25 sq.cm d)953.25 sq.cm
18) Four points P, Q, R and S lie on a straight line in the XY plane, such that PQ=QR=RS and the length of PQ is 5 meters. A man wants to go from P to S. but there are dogs tethered with 5 metre chains at point Q and R. The man would not go within the reach of any dog. Minimum distance in meters the man must travel to reach the point S is.
a) $5(\pi+2)$ b) $\frac{2\pi}{3}$ c) $\frac{4\pi}{3}$ d) $15\sqrt{2}$
19) A mosquito is flying in a room having dimensions 8 ft × 6 ft × 10 ft. It has to fly from one corner to the farthest opposite corner of a room to collect food. It collects the food and returns to its original spot. Find the minimum possible distance covered by the mosquito?
a) $20\sqrt{2}ft$ b) 20 ft. c) $4\sqrt{47}ft$ d) None of these
20) A cylindrical vessel of radius 21 m and height 5 m is 60% filled with water. How many pebbles of diameter 2 m are approximately required to fill the vessel?
a) 540 b) 340 c) 662 d) 750
21) A peacock is sitting on a 19 m long pole, a snake is approaching the hole which is at bottom of the pole, the snake is 27 m away from the hole, if their speeds are same, find the distance from the hole at which the peacock pounces over the snake.
a) 3.4 m b) 6.8 m c) 5.9 m d) 7.3 m