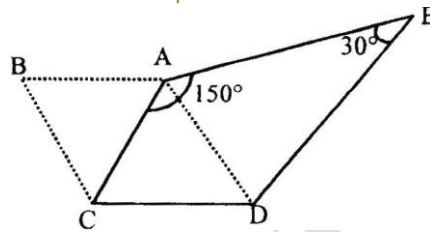


# TEST YOUR SKILLS

## Geometry (Miscellaneous)

- A polygon has 25 sides, the lengths of which starting from the smallest side are in AP. If the perimeter of the polygon is 2100 cm and the length of the largest side is 20 times that of the smallest, then the length of the smallest side and the common difference of the AP
  - 8 cm and  $6\frac{1}{3}$  cm respectively
  - 8 cm and  $5\frac{1}{3}$  cm respectively
  - 6 cm and  $6\frac{1}{3}$  cm respectively.
  - None of the above
- Two circles touch each other internally. Their radii are 2 cm and 3 cm. The biggest chord of the outer circle which is outside the inner circle is of length
  - $2\sqrt{2}$  cm
  - $3\sqrt{2}$  cm
  - $2\sqrt{3}$  cm
  - $4\sqrt{2}$  cm
- In  $\triangle ACD$ ,  $AD=AC$  and  $\angle C=2\angle E$ . The distance between parallel lines AB and CD is h.



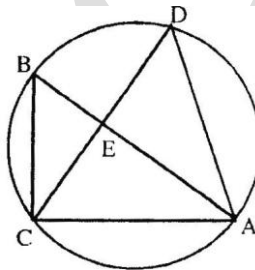
Then

I. Area of parallelogram ABCD

II. Area of  $\triangle ADE$

(a)  $I > II$  (b)  $I < II$  (c)  $I = II$  (d) Nothing can be said

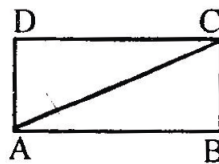
- In the adjoining figure points A, B, C and D lie on the circle.  $AD=24$  and  $BC=12$ . What is the ratio of the area of the triangle CBE to that of the triangle ADE



(a) 1:4 (b) 1:2 (c) 1:3 (d) Insufficient data

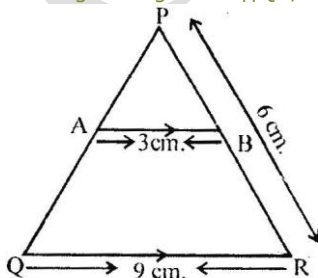
- How many sides does a regular polygon have those interior angle and exterior angle are in ratio 2:1
  - 3
  - 5
  - 6
  - 12
  - None these

- In the adjoining figure,  $AC+AB=5AD$  and  $AC-AD=8$ . Then the area of the rectangle ABCD is



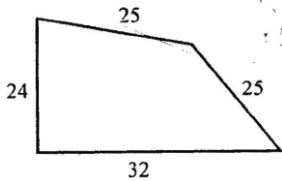
(a) 36 (b) 50 (c) 60 (d) cannot be answered

- In the given figure  $AB \parallel QR$ , find the length of PB.

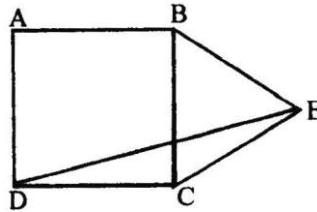


**A PREMIER INSTITUTE FOR BANK PO/SSC/MCA/MBA-CAT ENTRANCE ACADEMY**

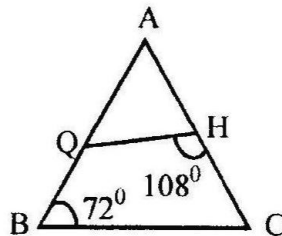
- (a) 3 cm (b) 2 cm (c) 4 cm (d) 6 cm
8. Two circles of radii 10 cm, 8 cm. Intersect and length of the common chord is 12 cm. Find the distance between their centers.  
 (a) 13.8 cm (b) 13.29 cm (c) 13.2 cm (d) 12.19 cm
9. If one of the diagonals of a rhombus is equal to its side, then the diagonals of the rhombus are in the ratio  
 (a)  $\sqrt{3}:1$  (b)  $\sqrt{2}:1$  (c) 3:1 (d) 2:1
10. In a triangle ABC, the internal bisector of the angle A meets BC at D. If AB=4, AC=3 and  $\angle A=60^\circ$  then the length of AD is  
 (a)  $2\sqrt{3}$  (b)  $\frac{12\sqrt{3}}{7}$  (c)  $15\sqrt{\frac{3}{8}}$  (d)  $6\sqrt{\frac{3}{7}}$
11. Two sides of a plot measure 32 metres and 24 metres and the angle between them is a perfect right angle. The other two sides measure 25 metres each and the other three angles  
 What is the area of the plot ?



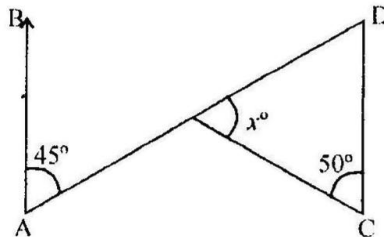
- (a) 768 (b) 534  
 (c) 696.5 (d) 684
12. If ABCD is a square and BCE is an equilateral triangle, what is the measure of the angle DEC ?



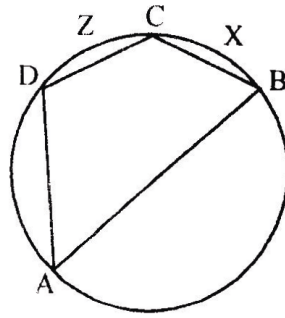
- (a)  $15^\circ$  (b)  $30^\circ$  (c)  $20^\circ$  (d)  $45^\circ$
13. In the figure AG=9, AB=12  
 AH=6, Find HC



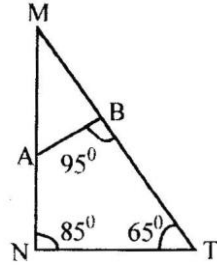
- (a) 18 (b) 12 (c) 16 (d) 6
14. If a circle is drawn such that it touches each side of a polygon (not necessarily regular) of perimeter 2P and area A, then the radius of circle drawn is equal to  
 (a) P/A (b) A/P (c) 2A/P (d) A/2P
15. In the given figure,  $AB \parallel CD$ ,  $\angle BAE=45^\circ$ ,  $\angle DCE=50^\circ$  and  $\angle CED=x$ , then find the value of x.



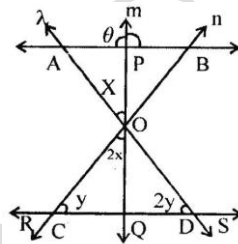
- (a)  $85^\circ$  (b)  $95^\circ$  (c)  $60^\circ$  (d)  $20^\circ$
16. In the cyclic quadrilateral ABCD  $\angle BCD=120^\circ$ ,  $m(\text{arc } DZC)=7^\circ$ , find  $\angle DAB$  and  $m(\text{arc } CXB)$



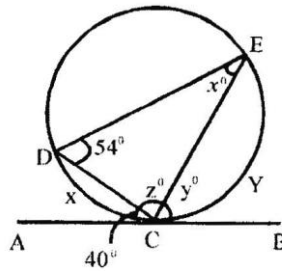
- (a)  $60^\circ, 70^\circ$  (b)  $60^\circ, 40^\circ$  (c)  $60^\circ, 50^\circ$  (d)  $60^\circ, 60^\circ$   
 17. In the figure, If  $NT/AB=9/5$  and if  $MB=10$ , find  $MN$ .



- (a) 5 (b) 4 (c) 28 (d) 18  
 18. If  $5\pi/6$  is the measure of each interior angle of a regular convex polygon, then it must be a  
 (a) octagon (b) hexagon (c) dodecagon (d) decagon  
 19. Give that segment  $AB$  and  $CD$  are parallel, if lines  $l, m$  and  $n$  intersect at point  $O$ . Find the ratio of  $\theta$  to  $\angle ODS$



- (a) 2:3 (b) 3:2 (c) 3:4 (d) data insufficient.  
 20. In the given figure,  $m\angle EDC=54^\circ$ .  $m\angle DCA=40^\circ$ . Find  $x, y$  and  $z$ .



- (a)  $20^\circ, 27^\circ, 86^\circ$  (b)  $40^\circ, 54^\circ, 86^\circ$   
 (c)  $20^\circ, 27^\circ, 43^\circ$  (d)  $40^\circ, 54^\circ, 43^\circ$   
 21. If the four equal circles of radius 3 cm touch each other externally, then the area of the region bounded by the four circles is  
 (a)  $4(9-\pi)$  Sq. cm. (b)  $9(4-\pi)$  Sq. cm.  
 (c)  $5(6-\pi)$  Sq. cm. (d)  $6(5-\pi)$  Sq. cm.-  
 22. The area of a circle is increased by  $22\text{ cm}^2$  when its radius is increased by 1 cm. The original radius of the circle is  
 (a) 3 cm. (b) 5 cm. (c) 7 cm. (d) 9 cm.  
 23. The diameter of the moon is assumed to be one fourth of the diameter of the earth. Then the ratio of the volume of the earth to that of the moon is  
 (a) 64 : 1 (b) 1 : 64 (c) 60 : 7 (d) 7 : 60  
 24. The ratio of the volume of a cube to that of a sphere, which will fit exactly inside the cube is  
 (a)  $\pi : 6$  (b)  $6 : \pi$  (c)  $3 : \pi$  (d)  $\pi : 3$   
 25. If the areas of a circle and a square are equal, then the ratio of their perimeters is

(a) 2 : 1 (b) 1 : 1 (c)  $\pi$  : 2 (d)  $\sqrt{\pi}$  : 2

26. A wire when bent in the form of a square encloses an area of 484 sq. cm. What will be the enclosed area when the same wire is bent into the form of a circle ? (Take  $\pi = 22/7$ )  
 (a) 462 sq.cm (b) 539 sq.cm (c) 616 sq.cm (d) 693 sq.cm
27. The size of a rectangular piece of paper is 100 cm×44 cm. A cylinder is formed by rolling the paper along its length. The volume of the cylinder is (Take  $\pi = 22/7$ )  
 (a) 4400 cm<sup>3</sup> (b) 15400 cm<sup>3</sup> (c) 35000 cm<sup>3</sup> (d) 144 cm<sup>3</sup>
28. A right circular cylinder, a hemisphere and a right circular cone stand on the same base and have the same height. The ratio of their volume  
 (a) 3 : 6 : 1 (b) 3 : 4 : 1 (c) 3 : 2 : 1 (d) 4 % 3 % 1
29. A cylindrical rod of iron whose height is eight times its radius is melted and cast into spherical balls each of half the radius of the cylinder. The number of such spherical balls is  
 (a) 12 (b) 16 (c) 24 (d) 48
30. If both the radius and height of a right circular cone are increased by 20%, its volume will be increased by  
 (a) 20 % (b) 40 % (c) 60 % (d) 72 %
31. If each side of a rectangle is increased by 50%, its area will be increased by  
 (a) 50 % (b) 125 % (c) 100 % (d) 250 %
32. If the diameter of a circle is increased by 8% then its area is increased by  
 (a) 16.64 % (b) 6.64 % (c) 16 % (d) 16.46 %
33. If each edge of a cube is increased by 40% the percentage increase in its surface area is  
 (a) 40 (b) 60 (c) 80 (d) 96
34. Triangle PQR circumscribes a circle with centre O and radius  $r$  cm such that  $\angle PQR = 90^\circ$ . If PQ = 3 cm, QR = 4cm. then the value of  $r$  is :  
 (a) 2 (b) 1.5 (c) 2.5 (d) 1
35. The radius of two concentric circles are 17cm and 10cm. A straight line ABCD intersects the larger circle at the point A and D and intersects the smaller circle at the points B and C . If BC=12 cm, then the length of AD (in cm) is:  
 (a) 20 (b) 24 (c) 30 (d) 34