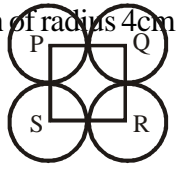


Section A [Mathematics]

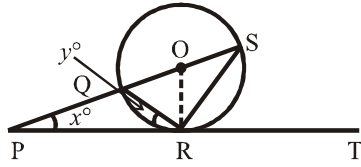
1. The value of $\sin^2 -135^\circ + \cos^2 120^\circ - \sin^2 120^\circ + \tan^2 150^\circ$ is
 (a) $\frac{1}{2}$ (b) $\frac{1}{4}$ (c) $\frac{1}{3}$ (d) $\frac{1}{6}$
 2. At a point 15m away from the base of 15m high house, the angle of elevation of the top is
 (a) 90° (b) 60° (c) 30° (d) 45°
 3. Four equal circles, each of radius 4cm, touch one another. The area included between them is
 (a) 14.76cm^2
 (b) 12.76cm^2
 (c) 13.70cm^2
 (d) 11.76cm^2
- 
4. The ratio of the volume of a cone and a cylinder of equal diameter and equal height is
 (a) 1 : 1 (b) 1 : 2 (c) 1 : 3 (d) 1 : 4
 5. The median of 1st ten prime number is
 (a) 11 (b) 12 (c) 13 (d) None of these
 6. The number in the form of $2m + 3$, where m is a whole number be always.
 (a) Odd number (b) Even number (c) Perfect number (d) Divisible by 3
 7. The sum of the digits of a two digit number is 8 and the difference between the number and that formed by reversing the digits is 18. Then the number is
 (a) 53 (b) 35 (c) 85 (d) None of these
 8. If $x^5y = 2x - 3y^2$, then $\left(\frac{1}{2}\right)^b \cdot \frac{1}{\sqrt{3}}$ is
 (a) 1 (b) 2 (c) 0 (d) -1
 9. If 29th term of an A.P. is twice the 19th term of that A.P., then the value of 9th term is
 (a) $2 \times 19\text{th term}$ (b) $\frac{1}{2} \times 19\text{th term}$ (c) Zero (d) $\frac{1}{19}$ th term
 10. The probability of picking a spade or an ace not of spade from a pack of 52 cards is
 (a) $\frac{1}{13}$ (b) $\frac{4}{13}$ (c) $\frac{1}{4}$ (d) $\frac{1}{6}$
 11. The value of a and b that $x^3 + ax^2 + bx + 6$ is divisible by $(x + 1)$ and $(x - 2)$ are
 (a) $a = -1, b = 4$ (b) $a = -4, b = 1$ (c) $a = 4, b = -1$ (d) $a = 1, b = -4$
 12. Which of the following is incorrect?
 (a) $\cos^4 m - \sin^4 m = \cos^2 m - \sin^2 m$ (b) $1 + \tan^2 m = \sec^2 m$
 (c) $\sin 40^\circ + \cos 50^\circ = 2 \sin 40^\circ$ (d) $\sin^2 m + \cos^2(-m) = -1$

13. Find the abscissa of the point P on x-axis if P lies in the line segment joining (2, -3) and (5, 6).

- (a) 0 (b) $\frac{13}{3}$ (c) 3 (d) None of these

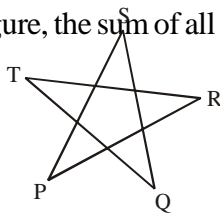
14. In the given fig. PT touches the circle whose centre is at O. Diameter SQ when produced meets PQ at P, then the value of $x + 2y =$

- (a) 45°
 (b) 90°
 (c) 60°
 (d) 100°



15. In the adjoining figure, the sum of all the angles is equal to K right angles. Then K is equal to

- (a) 10
 (b) 12
 (c) 14
 (d) 16



Section B - [Mental Ability]

16. How many days will there be from 26th January 2008 to 15th May 2008 (both days included)?

- (a) 110 (b) 111 (c) 112 (d) 113

17. In a certain code.2 is coded as P, 3 as N, 9 as Q, 5 as R, 4 as A and 6 as B. How is 599423 coded in that code?

- (a) EIIDBC (b) RQPANB (c) EIMDBC (d) RQQAPN

18. In a certain code language '581' means 'Apples are good', '357' means 'Eat good food' and '918' means 'Apples are ripe'. Which digit means 'Ripe' in that language?

- (a) 2 (b) 8 (c) 9 (d) 7

19. The numbers in each row or column of the square are written according to the same rule. By identifying the rule find the missing number.

- (a) 85
 (b) 92
 (c) 99
 (d) 70

5	28	3
11	125	4
9	?	11

20. How many rectangles are there in the given figure?

- (a) 6
 (b) 7
 (c) 8
 (d) 9

