

1. What would be the measure of the diagonal of a square whose area is equal to 578 sq cm?
 - a) 38 cm
 - b) 32 cm
 - c) 42 cm
 - d) 34 cm +
2. $\tan 7\theta \times \tan 2\theta = 1$, $\tan 3\theta = ?$
 - a) $1/\sqrt{3} +$
 - b) $\sqrt{3}$
 - c) $2/\sqrt{3}$
 - d) $\sqrt{3}/2$
3. What is the least value of $\sin^2 \theta + \cos^4 \theta$?
 - a) $\frac{1}{4}$
 - b) $\frac{3}{4} +$
 - c) $2/3$
 - d) $1/3$
4. From a tank of petrol, which contains 300 litres of petrol initially, the seller sells 60 litres of petrol or its mixture each time and replenishes the tank with kerosene. Every time he sells out only 60 litres of petrol (pure or impure). After replacing the petrol with kerosene for the 4th time, the total amount of kerosene in the mixture is:-
 - a) 161.12 litres
 - b) 171.12 litres
 - c) 177.12 litres +
 - d) 187.12 litres
5. If the length of a rectangle is increased in the ratio 6:7 and its breadth is diminished in the ratio 5:4 then its area will be diminished in the ratio?
 - a) 15:14 +
 - b) 14:15
 - c) 16:15
 - d) 15:16
6. A person sold a horse at a gain of 15%. Had he bought it for 25% less and sold it for Rs 60 less, he would have made a profit of 32%. The cost price of the horse was:
 - a) 400
 - b) 375 +
 - c) 475
 - d) 350
7. In a triangle ABC if side AB=4 cm, AC=6 cm and BC=7 cm, then find the length of BD if AD be the altitude on BC of triangle ABC.
 - a) $29/14 +$
 - b) $31/14$
 - c) $29/7$
 - d) $31/7$

8. The base of a right angled triangle is 2 cm and height is equal to its base, a new figure is formed by rotating this triangle through its hypotenuse. Then find the volume of new figure?
- $4\sqrt{2}\pi/3 +$
 - $4\sqrt{3}\pi/5$
 - $3\sqrt{2}\pi/7$
 - $3\sqrt{3}\pi/5$
9. An Article is sold at a profit of 20%. If both the CP and SP are Rs 100 less, the profit would be 4% more. Find the CP.
- 500
 - 600 +
 - 700
 - 800
10. In a parallelogram, the length of adjacent sides are 12 cm and 14 cm respectively. If the length of one diagonal is 16 cm, then find the length of the other diagonal.
- 20.6 +
 - 20
 - 21.2
 - 22.4
11. If $A+B+C=3\pi/2$, then $\cos 2A + \cos 2B + \cos 2C = ?$
- $1-4\sin A \cdot \sin B \cdot \sin C +$
 - $1-\sin A \cdot \sin B \cdot \sin C$
 - $1-2\sin A \cdot \sin B \cdot \sin C$
 - $1-3\sin A \cdot \sin B \cdot \sin C$
12. The number of numbers from 1 to 200 which are divisible by neither 3 nor 7 is:
- 110
 - 115 +
 - 120
 - 105
13. Find the area of the largest (or maximum sized) square that can be made inside a right angle triangle having sides 6 cm, 8cm & 10 cm when one of vertices of the square coincide with the vertex of right angle of the triangle.
- 576/47
 - 566/49
 - 556/47
 - 576/49 +