

TN Board Class 10 Maths Important Questions

- Let X = {1, 2, 3, 4}. Examine whether the relation g = {(3, 1), (4, 2), (2, 1)} is a function from X to X or not. Explain.
- 2. Three numbers are in the ratio 2 : 5 : 7. If 7 is subtracted from the second, the resulting numbers form an arithmetic sequence. Determine the numbers.
- 3. The centre of a circle is at (- 6, 4). If one end of a diameter of the circle is at the origin, then find the other end.
- 4. A ladder leaning against a vertical wall, makes an angle of 60° with the ground. The foot of the ladder 3.5m away from the wall. Find the length of the ladder.
- 5. A right circular cylinder has radius of 14cm and height of 8cm. Find its curved surface area.
- 6. The circumference of the base of a 12m high wooden solid come is 44m. Find the volume.
- 7. Calculate the standard deviation of the first 13 natural numbers.
- 8. Two coins are tossed together. What is the probability of getting at most one head.
- 9. Show that the lines 2y = 4x + 3 and x + 2y = 10 are perpendicular.
- 10. Use Venn diagrams to verify De Morgan's law for set difference $A \setminus (B \cap C) = (A \setminus B) \cup (A \setminus C)$.
- 11. The speed of a boat in still water is 15 km / hr. It goes 30 km upstream and return downstream to the original point in 4 hrs 30 minutes. Find the speed of the stream.
- 12. Draw the two tangents from a point which is 10cm away from the centre of a circle of radius 6cm. Also, measure the lengths of the tangents.
- 13. Construct $\triangle ABC$ in which the base BC = 5cm, $\angle BAC = 40^{\circ}$ and the median from A to BC is 6cm. Also measure the length of the altitude from A.
- 14. A boy is designing a diamond shaped kite, as shown in the figure where AE = 16 cm, EC = 81 cm. He wants to use a straight cross bar BD. How long should it be?
- 15. A vertical tree is broken by the wind. The top of the tree touches the ground and makes an angle 30° with it. If the top of the free touches the ground 30m away from its foot, then find the actual height of the tree.



- 16. A cylindrical jar of diameter 14cm and depth 20cm is half-full of water. 300 leadshots of same size are dropped into the jar and the level of water raises by 2.8 cm. Find the diameter of each leadshots.
- 17. Find the area of the quadrilateral formed by the points (- 4, 2), (- 3, 5), (3, 2) and (2, 3).
- 18. Using clay, a student made a right circular cone of height 48cm and base radius 12cm. Another student reshapes it in the form of a sphere. Find the radius of the sphere.
- 19. The probability that a new car will get an award for its design is 0.25., the probability that it will get an award for efficient use of fuel is 0.35 and the probability that it will get both the awards is Find the probability that
 - (i) it will get atleast one of the two awards
 - (ii) (ii) it will get only one of the awards.