ICSE Class 10 Maths Important Questions

1. Ben deposits a certain sum of money each month in a recurring deposit account of a bank. If the rate of interest is 8% per annum and Ben gets Rs. 8,088 from the bank after 3 years, find the value of his monthly instalment.

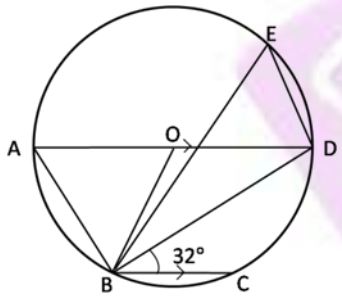
2. A bag contains 5 white balls, 6 red balls and 9 green balls. A ball is drawn at random from the bag. Find the probability that the ball drawn is

i. a green ball
ii. a white or a red ball
iii. neither a green ball nor a white ball

3. Find the minimum length in cm and correct to the nearest whole number of a thin metal sheet required to make a hollow and closed cylindrical box of diameter 20 cm and height 35 cm. The width of the metal sheet is 1 m. Also, find the cost of the sheet at the rate of Rs. 56 per m. Find the area of the metal sheet required if 10% of it is wasted in cutting, overlapping etc.

4. Geetha repays her total loan of 1,18,000 by paying instalments every month. If the instalment for the first month is 1,000 and it increases by 100 every month, what amount will she pay as the 30th instalment of the loan? What amount of the loan has she to still pay after the 30th instalment?

5. In the given figure, AD is a diameter. O is the centre of the circle. AD is parallel to BC and ∠CBD = 32°.



Find:

i. ∠OBD
ii. ∠AOB
iii. ∠BED

6. Prove that

$$\frac{1}{(\sec\theta-\tan\theta)}-\frac{1}{\cos\theta}=\frac{1}{\cos\theta}-\frac{1}{(\sec\theta+\tan\theta)}$$

7. Prove by factor theorem that

i. (x − 2) is a factor of $2x^3$ – 7x – 2
ii. (2x + 1) is a factor of $4x^3$ + $12x^2$ + 7x +1
iii. (3x − 2) is a factor of $18x^3$ − $3x^2$ + 6x – 12

8. Draw a histogram for the following distribution:

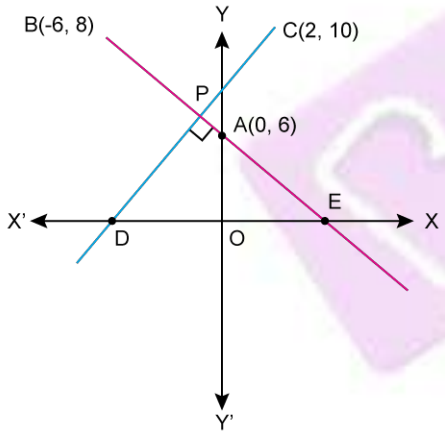
Class Interval	30–39	40–49	50–59	60–69	70–79
Frequency	24	16	09	15	20

9. Find the values of x which satisfy the inequation:

$$-2 \leq \frac{1}{2} - \frac{2x}{3} \leq 1\frac{5}{6} \ , x \in N$$

Plot the solution on the number line.

10. In the given figure. line AB meets the y-axis at point A. Line through C(2, 10) and D intersects line AB at a right angle at point R. Find



i. equation of line AB
ii. equation of line CD
iii. co-ordinates of points E and D

11. Find a GP for which the sum of the first two terms is −4 and the fifth term is 4 times the third term.

12. A man invests a certain sum on buying 15% Rs. 100 shares at 20% premium. Find
i. His income from one share
ii. The number of shares bought to have an income from the dividend as Rs. 6480
iii. The sum invested

13. Attempt this question on a graph paper.

a. Plot A (3, 2) and B (5, 4) on a graph paper. Take 2 cm = 1 unit on both axes.
b. Reflect A and B in the x-axis to A' and B', respectively. Plot these points also on the same graph paper.
c. Write down:
   i. the geometrical name of the figure ABB'A'
   ii. the measure of angle ABB'
   iii. the image of A" of A when A is reflected in the origin
   iv. the single transformation that maps A' to A"

14. A school has 630 students. The ratio of the number of boys to the number of girls is 3:2. This ratio changes to 7:5 after the admission of 90 new students. Find the number of newly admitted boys.

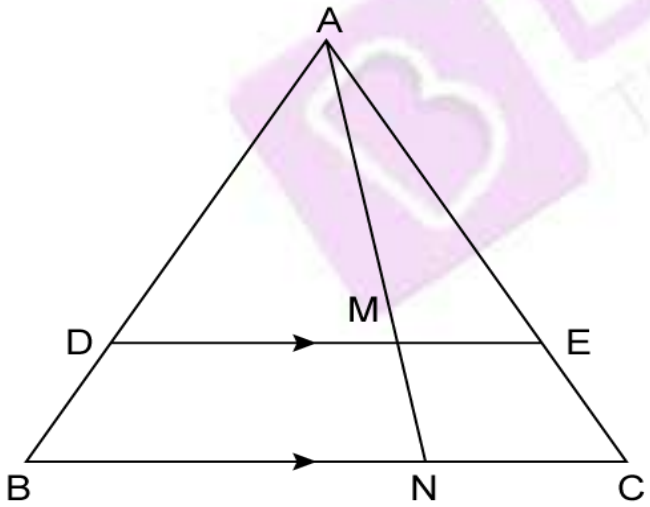
15. Prove:

$$\frac{1+\sin A}{\cos A}+\frac{\cos A}{1+\sin A}=2\sec A$$

16. Solve for x using the quadratic formula. Write your answer correct to two significant figures.

$(x-1)^2 - 3x + 4 = 0$

17. In the given figure, DE ∥ BC, AE = 15 cm, EC = 9 cm, NC = 6 cm and BN = 24 cm. Find the lengths of ME and DM.



18. One pipe can fill a cistern in 3 hours less than the other. The two pipes together can fill the cistern in 6 hours 40 minutes. Find the time that each pipe will take to fill the cistern.

19. A circus tent is in the shape of a cylinder surmounted by a conical top of the same diameter. If their common diameter is 56 m, the height of the cylindrical part is 6 m and the total height of the tent

above the ground is 27 m, find the area of the canvas used in making the tent.

20. Ankit deposits Rs 2,250 per month in a recurring deposit account for a period of 3 years. At the time of maturity, he will get Rs 90,990.

i. Find the rate of simple interest per annum
ii. Find the total interest earned by Ankit.