**Aarambh Classes**

**Class IX**

**MATHS SAMPLE PAPER**

**TIME : 2HOURS M.Marks : 40**

SECTION A

1. Simplify :

2. Find the value of k if x=2 ,y=1 is a solution of the equation 2x+3y =k.

3. Show that diagonals of a rhombus are perpendicular to each other .

4. Find the area of a triangle ,two sides of which are 8 cm and 11 cm and the perimeter is 32 cm.

5. The height of a cone is 15 cm. If its volume is 1570 ,find the radius of the base.

6. The diameter of aroller is 84 cm and its length is 120 cm .It takes 500 complete revolutions to move once over to level a playground .Find the area of the playground in .

7. In the given figure ,PQ RS ,MXQ =135 and MYR =40 ,find XMY .

8. Show that 0.2353535............can be expressed in the form of p/q .

SECTION B

9. Rationalise the denominator of .

10. The taxi fare in a city is as follows : for the first kilometre ,the fare is Rs 8 and for the subsequent distance ,it is rs 5 per km .Taking the distance covered as x km and total fare as Rs y ,write a linear equation for this information .

11. In the given figure ,PQPS ,PQSR ,and ,then find the values of x and y .

12. ABC is an isosceles triangle in which AB=AC . Side BA is produced to D such that AD=AB .Show that BCD is a right angle .

SECTION C

13. ABCD is a trapezium in which AB DC ,BD is a diagonal and E is the midpoint of AD. A line is drawn through E parallel to AB intersecting BC at F . Show that F is the midpoint of BC .

14. A field is in the shape of a trapezium whose parallel sides are 25 m and 10 m .the non parallel sides are 14 m and 13 m .Find the area of the field .

15. A hemispherical tank is made up of an iron sheet 1 cm thick .If the inner radius is 1 m ,then find the volume of th eiron used to make the tank .

16. In the given figure ,sides AB and AC of a ABC are produced to points E and D respectively .If bisectors BO and CO of CBE and respectively meet at point O, then prove that =90 - BAC

SECTION D

17. ABC is traingle right angled at C. A line through the midpoint M of hypotenuse AB and prallel to BC intersects AC at D. Show that

(i) D is the midpoint of AC .

(ii) MD AC

(iii) CM=MA =AB

18. A rhombus shaped field has green grass for 18 cows to graze.if each side of the rhombus is 30 m and its longer diagonal is 48 m ,how much area of grass field will each cow be getting ?

19. At a ramzan mela , a stall keeper in one of the food stalls has a large cylindrical vessel of base radius 15 cm filled up to a height of 32 cm with orange juice .The juice is fille din small cylindrical glasses of radius 3 cm up to aheight of 8 cm ,and sold for rs 3 each .How much money does the stall keeper receive by selling the juice completely ?