**Sample Paper –2013**

**Sub: Mathematics**

**Class X**

M.M 90

# Time: 3 Hrs

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Questions** | **No** | **Questions** |
| **1.**  **2.**  **3.**  **4.**  **5.**  **6.**  **7.**  **8.**  **9.**  **10.**  **11.**  **12.**  **13.**  **14.**  **15.**  **16.**  **17.**  **18.**  **19.**  **20.** | ***General Instructions:***  ***All questions are compulsory.***  ***The question paper consists of 34 questions***  ***Question No’s. from 1 to 8 , 1 mark each,***  ***Question No’s. from 9 to 14 , 2 mark each,***  ***Question No’s. from 15 to 24 , 3 mark each,***  ***Question No’s. from 25 to 34, 4 mark each.***  **Find the co-ordinate of the centroid of the triangle whose vertices are (2, 3), (-4, 6) and (8, 3).**  **Find the 19th term of AP: 15, 22, 29….**  **What is the distance of the point (-5, 3) from the origin.**  **If PQ and PR are the tangents to a circle with center O and radius 4 from point P then find the perimeter of Quadrilateral PQOR. If PQ=11cm.**  **If one of the root of the quadratic equation x²-7x+k=0 is 5. Find the value of k.**  **Find the distance of the point (2,-3) from the mid point of the line joining (1,4) and (5,3)**  **What is the probability of having 53 Sunday in a non leap year.**  **A circle is inscribed in a triangle with sides 8, 15 and 17cm. Find the radius of the circle.**  **If the points (1, 2), (4, y), (x, 6) and (3, 5) are the vertices of the parallelogram. Find the value of x and y.**  **A die is tossed then find the probability of getting (i) a Prime no. (ii) a Multiple of 5.**  **Find the 20th term from the end of**  **AP:5,12,19………….215**  **A box containing tickets numbered from 11 to 25 find the probability of getting (i) a prime number (ii) a odd number.**  **Solve the quadratic equation: 9x² - 16x -4=0**  **Find the co-ordinate of a point on y-axis that is equidistant from the points (4,-3) and (5, 2).**  **Two tangents TP and TQ are drawn to a circle with centre O from an external point T. Prove that ∠PTQ = 2∠ OPQ.**  **Find the area of the quadrilateral whose vertices taken in order are A (- 5, 7), B (- 4, -5), C (- 1,-6) and D (4, 5).**  **A hollow sphere of internal and external diameters 4cm and 8cm respectively is melted into a cone of base diameter 8cm. Calculate the height of the cone.**  **A two digit number is four times the sum of its digits and also the twice of the product of its digits. Find the number.**  **The sum of the squares of two consecutive odd numbers is 394. Find the number.**  **Two men standing on opposite sides of 400m high tower measures angle of elevation of its top as 45º and 60º respectively. Find the distance between them.** | **21.**  **22.**  **23.**  **24.**  **25.**  **26.**  **27.**  **28.**  **29.**  **30.**  **31.**  **32.**  **33.**  **34.** | **In fig PA and PB are tangents to the circle drawn from an external point P. CD is a third tangent touching the circle at Q. If PB = 10 cm and CQ = 2 cm, what is the length of PC?**  **Construct a triangle similar to a given ∆ABC in which AB = 4 cm, BC = 6 and AC =5cm such that each side of the new triangle is 3/4 of the given ∆.**  **A card is drown from a deck 52 cards find the probability of getting(i)A red queen, (ii) A face card, (iii) a card of club.**  **Two circles touch externally. The sum of the area is 130π sq cm and the distance between their centres is 14cm. Find the radii of the circles.**  **The area of an equilateral triangle is *49√3 cm2*. Taking each angular point as centre, a circle is described with radius equal to half the length of the side of the triangle. Find the area of the triangle not included in the circles.**  **The sum of how many terms of AP 1,3,5...is 256.**  **The rain water collected on the roof of the building of dimensions 22m x 20m, is drained into a cylindrical vessel having base diameter 2m and height 3.5m. If the vessel is full upto the brim, find the height of rain water on the roof.**  **Find the value of *k* so that the quadratic equation has equal roots: 2x2-(k-2)x+ 1 = 0**  **The diameters of the ends of a frustum of a cone 45 cm high are 56 cm and 14 cm. Find its volume and the curved surface area.**  **Prove that the tangents drawn from the external point to a circle are equal in length. Also find the radius of the Circle. If the length of tangent from a point 13cm away from origin is 12 cm.**  **Find the sum of all two digit number which when divided by 4 leaves the remainder 1.**  **The angle of elevation of a cloud from a point 200m above a lake is 30º and the angle of depression of its reflection in the lake is 60º. Find the height of the cloud above the lake.**  **Marbles of diameter 1.4cm are dropped into a cylinder of diameter 7cm containing some water. Find the number of marble so that water level rise by 5.6cm**  **The angle of depression of the top and bottom of a building from the top of 120m high tower are 30º and 60º. Find the height of the building.**  ***Best of Luck*** |

Bright Tuition Centre