

NINETH STANDARD IMPORTANT "MATHS SUBJECT "ANNUAL QUESTIONS(8, 5, 2 marks)8 marks "GEOMETRIES":

- Construct the centroid of ΔPQR whose sides are $PQ=8\text{CM}$, $QR=6\text{CM}$, $RP=7\text{CM}$
- Draw a triangle ABC , $AB=8\text{CM}$, $BC=6\text{CM}$, $\angle B = 70^\circ$ and locate its circumcentre and draw the circumcircle

8 marks "GRAPHS":

- Use graphical method to solve the system of equations $x + y = 5$, $2x - y = 4$
- Solve graphically $x - y = 0$, $y + 3 = 0$
- Draw the graph of $y = 3x - 1$
- Solve graphically $3x + 2y = 4$, $9x + 6y - 12 = 0$

5 marks "SUMS":

- Anna's Tutors, Tricky (ThomasIsbong@gmail.com)
- If $A = \{-2, 0, 1, 3, 5\}$, $B = \{-1, 0, 2, 5, 6\}$ AND $C = \{-1, 2, 5, 6, 7\}$ then show that $A - (B \cup C) = (A - B) \cap (A - C)$
 - Given $\sqrt{2} = 1.414$, Find the value of $8 - 5\sqrt{2} / 3 - 2\sqrt{2}$ (to 3 places of decimals)
 - If $P = \{2, 3, 5, 7, 11\}$ and $Q = \{1, 3, 5, 11\}$ Find the symmetric difference between P and Q .
 - Find the value of m , if $(x - 2)$ is a factor of the polynomial $2x^3 - 6x^2 + mx + 4$
 - Factorise $x^3 - 5x^2 - 2x + 24$
 - Find the points of trisection of the line segment joining $(-2, -1)$ and $(4, 8)$
 - Find the area of the right angled triangle with hypotenuse 5cm and one of the acute angle is $48^\circ 30'$ ($\sin 48^\circ 30' = 0.7490$, $\cos 48^\circ 30' = 0.6626$)
 - The adjacent sides of a parallelogram measures 34m , 20m and the measure of one of the diagonal is 42m . Find the area of parallelogram
 - The dimensions of a brick are $24\text{cm} \times 12\text{cm} \times 8\text{cm}$. How many such bricks will be required to build a wall of 20m length 48cm breadth and 6cm height.
 - The following are the marks scored by the students in the summative assessment exam

Class	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60
No. of students	2	7	15	10	11	5

Calculate the median.

- In a recent year, of the 1184 centum scores in various subjects in tenth standard public exams, 233 were in mathematics, 125 in social science and 106 in science. If one of the student is selected at random. Find the probability of that selected students
 - Is a centum scorer students
 - Is not a centum scorer in science
- If $\sec \theta = 13/5$ then prove that $2\sin \theta - 3\cos \theta / 4\sin \theta - 9\cos \theta = 3$
- The area of a rectangle is $x^2 - 7x + 12$. If its breadth is $(x + 3)$ then find its length.
- Show that the points are taken in order form an isosceles triangle $A(5, 4)$, $B(2, 0)$, $C(2, 3)$
- If $A = \{b, c, e, g, h\}$, $B = \{a, c, d, g, i\}$ and $C = \{a, d, e, g, h\}$ then show that $A - (B \cap C) = (A - B) \cup (A - C)$
- Rationalise the denominator of $5 + \sqrt{3} / 5 - \sqrt{3}$
- Simplify the following using addition and subtraction properties of surds $3\sqrt{75} + 5\sqrt{48} - 2\sqrt{243}$

- Determine the value of m : If $(x + 3)$ is factor of $x^3 - 3x^2 - mx + 24$
- Factorise: $25x^2 + 4y^2 + 9z^2 - 20xy + 12yz - 30xz$
- Solve by elimination method
 $X - y = 5$, $3x + 2y = 25$
- Find all the angles of the given cyclic quadrilateral ABCD in the figure
- Show that the following points taken in order form an equilateral triangle $A(\sqrt{3}, 2)$
 $B(0, 1)$ $C(0, 3)$
- If $3\cot A = 2$, then find the value of $4\sin A - 3\cos A / 2\sin A + 3\cos A$
- The lengths of a sides of a triangular field are 28m, 15m and 41m, Calculate the area of the field, Find the cost of levelling the field at the rate of 20m^2
- Two dice are rolled, find the probability that the sum is
 1. Equal to 1
 2. Equal to 4
 3. Less than 13
- There are 24 balls in a pot. If 3 of them are red, 5 of them are blue and the remaining are green then, what is the probability of picking out
 1. A blue ball
 2. A red ball
 3. A green ball
- Verify $A - (B \cap C) = (A - B) \cup (A - C)$ using venn diagrams

Anna's tutions, Tricky (Thomaslisbons@gmail.com)

2 marks "SUMS":

- Write all the subset of $A = \{a, b\}$
- If $A = \{2, 3, 5\}$ and $B = \{3, 4, 5, 6\}$ find $(A \cap B)$
- Find any three rational numbers between $-7/11$ and $2/11$
- Verify that $1 - 0.\bar{9}$
- Find the zeros of the polynomial $p(x) = 2x + 5$
- Expand: $(3a - 4b)^3$
- Find the value of x in the Given figure
- Find the distance between the points $(-4, 3)$ $(2, -3)$
- Evaluate: $\sin 49^\circ / \cos 41^\circ$
- Find the total surface area and lateral surface area of the cube whose side is 5cm
- Find the volume of a cuboid whose dimensions are length=8cm, breadth = 8cm, height = 6cm
- In a week temperature of a certain place is measured during winter are as follows: 26°C , 24°C , 28°C , 31°C , 30°C , 26°C , 24°C . Find the mean temperature at the week
- Find the mode of the given data: 3.1, 3.2, 3.3, 2.1, 1.3, 3.3, 3.1
- When a dice is rolled. Find the probability to get the number which is greater than 4.
- Write down the power set of $A = \{1, 2, 3\}$
- If $A = \{b, d, e, g, h\}$ and $B = \{a, e, c, h\}$ verify that $n(A - B) = n(A) - n(A \cap B)$

- Multiply $\sqrt[3]{40}$ and $\sqrt[3]{16}$ Annai, tutions, Toichy (Thomaslibon5@gmail.com)
- Verify whether the following are zeros of the polynomial indicated against them or not $p(x) = (x+3)(x-4)$
- Find the G.C.D of $x^4 - 1$, $x^2 - 1$
- The diameter of the circle is 52cm and the length of one of its chord is 20cm. Find the distance of the chord from the centre
- Find the coordinates of the point which divides the line segment joining the points A(4, -3) and B(9, 7) in the ratio 3 : 2
- Find the values of $\tan^2 60^\circ - 2\tan^2 45^\circ - \cot^2 30^\circ + 2\sin^2 30^\circ + \frac{3}{4} \operatorname{cosec}^2 45^\circ$
- Find the centroid of the triangle whose vertices are (-5, -5), (1, -4) and (-4, -2)
- Find the total surface area of the cube whose side is 5cm
- Find the volume of the cuboid whose dimensions are length = 12cm, breadth = 8cm, height = 6cm
- The mean weight of 4 members of a family is 60kg. Three of them have the weight 56kg, 68kg, 72kg respectively. Find the weight of the fourth member
- Find the median of the given data: 36, 44, 86, 31, 37, 44, 86, 35, 60, 51
- Solve by the method of elimination $2x - y = 3$ and $3x + y = 7$