

**CHOITHRAM SCHOOL MANIKBAGH INDORE**  
**SESSION : 2018-19**

Class : X

Subject : Mathematics

Assignment no. 4

Date of Assignment: 14.12.18

Date of Submission:19.12.18

Q. No.	Questions	MARKS	LEVEL
	VERY SHORT ANSWER TYPE		
Q1	If the area of the triangle formed by the points $(x,2x),(-2,6)$ and $(3,1)$ is 5 square units ,then x= (A) $\frac{2}{3}$ (B) $\frac{3}{5}$ (C) $\frac{3}{11}$ (D) $\frac{3}{2}$	1 mark	Knowledge
Q2	If the sum and the product of the roots of the equation $kx^2 + 6x +4k =0$ are equal, then k = (A) $-\frac{3}{2}$ (B) $\frac{3}{2}$ (C) $\frac{2}{3}$ (D) $-\frac{2}{3}$	1 mark	Understanding
Q3	If one zero of the polynomial $(a^2+x)x^2+13x+6a$ is reciprocal of the other, then find the value of a.	1 mark	H.O.T.
	SHORT ANSWER TYPE – I		
Q4	Points A and B are 90 km apart from each other on a highway. A car starts from A and another from B at the same time. If they go in the same direction, they meet in 9 hrs and if they go in opposite direction, they meet in $\frac{9}{7}$ hrs. Find their speeds.	2 marks	Knowledge
Q5	Prove that $\sqrt{11}$ is an irrational number.	2 marks	Logical Reasoning
Q6	Solve: $\frac{1}{p+q+x} = \frac{1}{p} + \frac{1}{q} + \frac{1}{x}$ , $x \neq 0, x \neq -p-q$	2 marks	Understanding
Q7	Find the greatest number which on dividing 1657 and 2037 leaves remainder 6 and 5, respectively	2 marks	H.O.T.
	SHORT ANSWER TYPE – II		
Q8	If $\alpha$ and $\beta$ are the zeroes of the quadratic polynomial $f(x) = x^2 - 2x + 1$ , then find a quadratic polynomial whose zeroes are $\frac{2\alpha}{\beta}$ and $\frac{2\beta}{\alpha}$	3 marks	Understanding
Q9	X takes 3h more than Y to walk 30 km. But if X doubles his pace, he is ahead of Y by $1\frac{1}{2}$ an hour .Find their speed of walking	3 marks	MultiConceptual
Q10	Find the sum of all two digits natural numbers which when divided by 3 yields 1 as remainder.	3 marks	H.O.T.
	LONG ANSWER TYPE		
Q11	A ladder rests against a vertical wall at an inclination $\alpha$ to the horizontal. Its foot is pulled away from the wall through a distance P so that its upper end slides a distance Q down the wall and then the ladder makes an angle $\beta$ to the horizontal .Show that $\frac{P}{Q} = \frac{\cos \beta - \cos \alpha}{\sin \alpha - \sin \beta}$	5 marks	H.O.T.
Q12	A person donates money to a trust working for education of children and women in some villages. If the persons donate Rs 5000 in the first years and his donation increases by Rs 250 every year, find the amount donated by him in the eighth year and the total amount donated in eight years.	5 marks	Logical Reasoning

