ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian minority Institution

Subject: MathematicsClass-X **Date:23/01/2021**

Worksheet-2

Chapter: Quadratic equation

Topic- basics of quadratic equations

1.Choose the correct alternative. 1x15=15

a)which of the following polynomial is a quadratic polynomial?

i) x^2-7x+2 ii) $2x-1$ iii) $7x^5-x(x+2)$ iv) none of these

b)which of the following polynomial is a quadratic polynomial?

i) $x + 3/x = x^2$ ii) $(x-2)^2=x^2-6x+7$ iii) $x^2-\sqrt{6}x+2=0$ iv) none of these

c) If $\frac{x}{4-x}= 1/3x$ be expressed in the form of $ax^2 + bx +c=0$, find the coefficient of x

i) -1 ii) 2 iii) 0 iv) 1

d)The length of the Dhruba's rectangular garden is 5 mtrs more than its breadth and the area of the garden is 204 sq m. construct the quadratic equation.

i) $x^2+5x-204=0$ ii) $x^2+10x-204=0$ iii) $3x^2++32x-35=0$ iv) none of these

e) Writing $x- 1 + 1/x = 6$ in the form of $ax^2 +bx +c=0$ we get

i) $x^2-17x+1=0$ ii) $x^2-7x+1=0$ iii) $x^2-19x+20=0$ iv) none of these

f) Expressing $(x+2)^3= x(x^2-1)$ in the form of $ax^2+bx+c=0$ find out coefficient of x^2 i) 8 ii) 13 iii) 6 iv) 0

g) find coefficient of x in the equation mentioned in Q. no. f) i) 13 ii) 8 iii) 6 iv) 0

h)The polynomial equation $x(x+1) +8 = (x+2)(x-2)$ is

i) linear equation ii) quadratic equation iii) cubic equation iv) none of these

i) The roots of the equation $7x^2+x-1=0$ are i) real and distinct ii) real and equal iii) not real iv) none of these

j) one year back a man was 8 times as old his son. Now his age is equal to the square of his son's age. Their present ages are i) 5 yrs, 25 yrs ii)7 yrs, 49 yrs iii) 8 yrs, 64 yrs iv) none of these

k)The sum of the squares of 2 consecutive natural number is 313. The numbers are i) 13, 14 ii) 15, 16 iii) 12, 13 iv) none of these

l)Equation $(x+1)^2-x^2=0$ has _____ real roots i) 1 ii) 3 iii) 2 iv) 4

m) Which constant should be added and subtracted to solve the quadratic equation $4x^2-\sqrt{3}x+5=0$ by the method of completing square.

i) 9/16 ii) 3/16 iii) ¾ iv) none of these

n) a natural number, when increased by 12, equals 160 times its reciprocal. Find the number i) 3 ii) 8 iii) 4 iv) 7

o) The positive root of $\sqrt{3x^2+6}=9$ is i) 3 ii) 4 iii) 7 iv) 5

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