ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian minority Institution

Subject: MathematicsClass-X **Date:25/01/2021**

Worksheet-3

Chapter: Quadratic equation

Topic- Solution of x, nature of roots

1.Choose the correct alternative. 1x15=15

a)Solve : x^2-5-14=0 i) x=-3 or 7 ii) x=-2 or 7 iii) x=2 or 7 iv) none of these

b) Solve : x^2=11x-28 i) x=4 or 7 ii) x=-4 or -7 iii) x=-4 or 7 iv) none of these

c)solve: $6x^2$-x=5 i) x= 5/6 or 1 ii)x=6/5 or 1 iii) x=-5/6 or 1 iv) none of these

d)solve: $12x^2$=25x i) x=0 or 25/12 ii) x=0 or -25/12 iii) x= 12/25 or 0 iv) none of these

e) Solve: $7x^2$+14x=0 i) x= 0 or 2 ii) x=-2 or 0 iii) x=3 or 0 iv) none of these

f) The sum and the product of the equation x^2 +20x +3=0 are i) 10,3 ii) 20, -3 iii) -10, -3 iv) none of these

g) (k-2)x^2 + 3x +7 for which value of k , the given equation is not a quadratic equation i) 2 ii) -2 iii) -1 iv) 0

h) If the sum of the roots of the equation x^2 –(k+6) x + 2(2k-1)=0 is equal to half of their product, then k is equal to i) -7 ii) 7 iii) 1 iv) 5

i) If a and b can take values 1,2,3,4 . Then the umber of the equations ax^2 + bx +1 =0 having real roots is i) 10 ii) 7 iii) 6 iv) 12

j)If p^2x^2-q^2=0, then x= i) p/q or – p/q ii) p/q iii) q/p iv) -q/p

k) Find the other root if one root of the equation x^2- (2+b)x +6=0 is 2

i) -2 ii) 3 iii) 4 iv) -3

l)Find the other root of the equation if one root of equation $2x^2 + kx + 4 = 0$ is 2

i) -1 ii) -2 iii) 1 iv) 3

m)Solve x: $(4x-2)^2 + 6x = 25$ i) $x = 3/2$ or $-7/8$ ii) $x = -3/2$ or $-7/8$ iii) $x = 3/2$ or $7/8$ iv) none of these

n) a superfast train runs having the speed 15 km/hr more than that of an express train. Leaving same station the superfast train reached a station of 180 km distance 1 hr before the express train. Find the speed of the superfast train in km/hr.

i) 45 km/hr ii) 60 km /hr iii) 40 km /hr iv) none of these

o)Determine the nature of the roots: $2x^2 + x - 2 = 0$

i) equal and real roots ii) roots are real and unequal iii) roots are not real iv) none of these

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