



ST. LAWRENCE HIGH SCHOOL



A Jesuit Christian minority Institution

Subject: Mathematics

Class- X

Date: 25/01/2021

Answer key of Worksheet-3

Chapter: Quadratic equation

Topic- Solution of x, nature of roots

1. Choose the correct alternative. $1 \times 15 = 15$
- 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 number 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

Aparajita Mondal