



ST. LAWRENCE HIGH SCHOOL



A Jesuit Christian minority Institution

Subject: Mathematics

Class- X

Date:23/01/2021

Answer key of Worksheet-2

Chapter: Quadratic equation

Topic- basics of quadratic equations

1. Choose the correct alternative.

$$1 \times 15 = 15$$

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) $3/4$ 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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