

Maths Work Sheet

Class - X

Chapter:- Quadratic Equations

Q01 :} The value of k if $x^2 - kx + 4 = 0$ has equal roots. [Ans.: -4 or 4]

Q02 :} If the Q.E $ax^2 + bx + c = 0$ has equal roots then each of the roots is _____.
[Ans.: $-\frac{b}{2a}$]

Q03 :} The equation $2x^2 + px + 3 = 0$ has real roots then the value of p is _____.
[$p \geq 2\sqrt{6}, p \leq -2\sqrt{6}$]

Q04 :} Without solving comment on the nature of the roots of the Quadratic Equation:
 $2x^2 + 10x + 49 = 0$.

Q05 :} The sum of the roots of a Q.E $ax^2 + bx + c = 0$ is _____ and the product of the roots is _____.

Q06 :} If α and β are the roots of the Q.E. $ax^2 + bx + c = 0$, then the Q.E. whose roots are $\frac{1}{\alpha}$ and $\frac{1}{\beta}$ is _____.

Q07 :} One of the roots of Q.E. $x^2 - kx + 6 = 0$ is 2. Find the other root.

Q08 :} One of the root of Q.E. is $2 + 3\sqrt{3}$, the other root is _____.

Q09 :} One of the root of the Q.E. $3x^2 + 8x + k = 0$ is the reciprocal of the other. Then $k =$ _____.

Q10 :} α and β are the roots of the Q.E. $5x^2 + 9x + 4 = 0$, then the Q.E. whose roots are $\frac{1}{\alpha}$ and $\frac{1}{\beta}$ is _____.

Q11 :} α and β are the roots of the Q.E. $x^2 - 5x + 6 = 0$, then the Q.E. whose roots are 2α and 2β is _____.

Q12 :} The sides of a rectangle are x and $x+2$ cms and its area is 48 cm^2 . Find the perimeter of the rectangle. [Ans.: 28 cm]

Q13 :} The sum of 3 consecutive terms of an A.P is 24 and their product is 480. The terms are _____. [Ans.: 6, 8, 10]

Q14 :} The equation $(k+1)x^2 - 2(k-1)x + 1 = 0$ has equal roots. The value of k is _____. [Ans.: 0, 3]

Q15 :} The roots of the equation $(b-c)x^2 + (c-a)x + (a-b) = 0$ are equal. Prove that $2b = a + c$.

Q16 : The sum of two nos. is 15 and the sum of their reciprocal is $\frac{3}{10}$. Find the nos.

[Ans.: 10, 5]

Q17 : The sum of the squares of two positive integers is 208. If the square of the larger number is 18 times the smaller no., find the nos.

Q18 : The difference of the squares of two nos. is 45. If the square of the smaller no. is 4 times the larger no., find the nos.

Q19 : The hypotenuse of a right angled triangle is 6 m more than twice the shortest side. The third side is 2 m less than the hypotenuse. Find the sides.

Q20 : The perimeter of a rectangle is 70 cm and its diagonal is 25 cm. Find the area of the rectangle.

Q21 : Two pipes running together can fill a cistern in $3\frac{1}{13}$ minutes. If one of the pipes takes 3 minutes less than the other to full the cistern, find the time taken by each of them to full the tank.

Q22 : A dealer sells a toy for Rs. 24 and gains as much as percent as the cost price (in Rs.). Find the Cost Price.

Q23 : A librarian bought some story books for children for Rs. 2000. Had the price of each book been reduced by Rs. 10, he would have bought 10 more books. Find the ORIGINAL price of each book.

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