



MATHS

QUADRATIC EQUATIONS

All Questions

1. What is Quadratic Equation ?



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2. General Form of the Quadratic Equation and Roots of the Quadratic Equation.



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3. Determine whether a given equation is quadratic or not (i) $x^2 - 6x + 4 = 0$ (ii)

$$x^2 + 2\sqrt{x} + 3 = 0$$



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4. Determine whether an unknown involved in a quadratic equation when its roots are given .

$$kx^2 + 2x - 3 = 0; x = 2$$



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5. Algorithm to Solve the equation by factorization method $\frac{x}{x+1} + \frac{x+1}{x} = \frac{34}{15}$



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6. Algorithm to find the solution of quadratic equation by completing the square :

$$9x^2 - 15x + 6 = 0$$



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7. What is quadratic formulae to find the solution of quadratic equation



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8. Solve the quadratic equation having real roots by quadratic formulae :(i)

$$9x^2 + 7x - 2 = 0 \text{ (ii) } 6x^2 + x - 2 = 0$$



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9. Determine the nature of roots of given quadratic equation (i) $x^2 + x + 1 = 0$ (ii)

$$4x^2 - 4x + 1 = 0$$



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10. Determine or proving the nature of the roots : If p, q, r, s are real no. such that $pr = 2(q + s)$ then show that atleast one of the equations $x^2 + px + q = 0$ and $x^2 + rx + s = 0$ has real roots.



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11. Determine the values of unknown involved in a given quadratic equation when nature of the roots are given.



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12. The sum of square of two consecutive natural no is 313. Find the numbers.



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13. A train travels a distance of 300km at constant speed . If the speed of the train is increased by 5km/h; the journey would have taken 2 hr less. Find the original speed of the train.



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14. The sum of the ages of father and his son is 45 years . 5 years ago the products of their ages was 124. Find the present ages .



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15. Application of quadratic equation : The hypotenuse of a right angle triangle is 6 m more than the twice the shortest side. If the

third side is 2 m less than the hypotenuse, find the sides of the triangle.



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16. If twice the area of a small square is subtracted from a larger square . the result is $14cm^2$. However if twice the area of larger square is added to the three times the area of smaller square ; the result is $203cm^2$. Determine the sides of the square .



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17. A takes 6 days less than the time taken by B to finish a piece of work. If both A and B together can finish it in 4 days . Find the time taken by B to finish the work.



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18. A person on the tour has Rs 360 on the expenses . If he extends his tour for 4 days ; he has to cut down the daily expenses by Rs 3 . Find the original duration of the tour.



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19. One-Fourth of a herd of a camel was seen in the forest. Twice the squareroot of the herds had gone to mountains and remaining 15 camels were seen on the bank of the river. Find the total no. of camels.



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20. Determine whether the given values are the solution of the given equation (i)

$$3x^2 - 2x - 1 = 0; x = 1 \quad \text{(ii)}$$

$$x^2 - x + 1 = 0; x = 1; x = -1$$



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21. The product of two consecutive positive integers is 240. Formulate the quadratic equation whose roots are these integers.



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22. Determine the discriminant of quadratic

equation (i) $3x^2 + 2x - 1 = 0$ (ii)

$$x^2 - 4x + 2 = 0$$



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