5. *QUADRATIC EQUATIONS*

March 2015

No given any questions in this chapter

JUNE 2015

1. Check weather 1 and $\frac{3}{2}$ *are the roots of the equation* $2x^2 - 5x + 3 = 0$
2. If the sum of the area of two squares is $468\ m^2$ and the difference of their perimeters is 24 m , then find the measurements of their sides.
3. Which of the following is a quadratic equation?

$A)\ x^3 - 6x^2 + 2x - 1 = 0$ **B)** $x^2 + \frac{1}{x^2} = 2$ **C)** $x + \frac{1}{x} = 3$ **D)** $(x + 1)(x + 2)(x + 3) = 0$

March -2016

4. If $b^2 - 4ac > 0$ *in* $ax^2 + bx + c = 0$; then what can you say about roots of the equation? $(a \neq 0)$
5. If $9x^2 + kx + 1 = 0$ has equal roots, find the value of k.
6. Sum of the squares of two consecutive positive even integers is 100; find those numbers by using quadratic equations.   (4 ma)
7. Which one of the following quadratic equations has equal roots?

$A)\ x^2 - 5 = 0$ **B)** $x^2 - 10x + 25 = 0$ **C)** $x^2 + 5x + 6 = 0$ **D)** $x^2 - 1 = 0$

June 2016

8. Find the value of k, if 2 is one of the roots of tbe quadratic equation $x^2 - kx + 6 = 0$

March -2017

9. Write the nature of the roots of the quadratic equation $2x^2 - 5x + 6 = 0$
10. The sum of a number and its reciprocal is $\frac{10}{3}$. Find the number.
11. The perimeter of a right angled triangle is 60 cm and its hypotenuse is 25 cm. Then find the remaining two sides.   (4 marks)

    Hint (Hypotenuse =25, let one side is x, third side is 60-25-x= 35-x Apply pythagoras theorem
12. If $x^2 - px + q = 0\ (p, q \in R\ and\ p \neq 0, q \neq 0)\ has\ distinct\ real\ roots, then\ ......$

$A)\ p^2 < 4q$ **B)** $p^2 > 4q$ **C)** $p^2 = 4q$ **D)** $p^2 + 4q = 0$

JUNE 2017

13. Write the nature of the roots of the quadratic equation $x^2 - 8x + 16 = 0$
14. Is it possible to design a rectangular garden, whose length is twice of its breadth and area is $200\ m^2$?

    If so, find its length and breadth.
15. If -4 is a common root for the quadratic equations $2x^2 + px + 8 = 0$ and $p(x^2 + x) + k = 0$, *then find the value of k.*   (4 marks)

March − *2018*

16. Find the sum and product of the quadratic Equation $x^2 - 4\sqrt{3}x + 9 = 0$
17. If the equation $k\ x^2 - 2kx + 6 = 0\ ha\ equal\ roots, then\ find\ the\ value\ of\ k.$
18. Sum of the squares of two consecutive even numbers is 580. Find the numbers by writing suitable Quadratic equation.

June 2018

19. Find the values of k for which the equation $4x^2 + 5kx + 25 = 0\ has\ equal\ roots.$
20. Without calculating the roots $x^2 - 5x + 6 = 0, explain\ the\ natures\ of\ the\ roots.$
21. If a number when increased by 12, equals 160 times of its reciprocal, then find the numbers.

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