QUADRATIC EQUATIONS

ASSIGNMENT NO. 10

1. If a and b are the roots of the equation $x^2 + ax - b = 0$, then find a and b.
2. Find the discriminant of the quadratic equation $4\sqrt{2}x^2 + 8x + 2\sqrt{2} = 0$
3. Find the value of k for which the quadratic equation $9x^2 - 3kx + k = 0$ has equal roots.
4. If – 5 is a root of the quadratic equation $2x^2 + px - 15 = 0$ and the quadratic equation $p(x^2 + x) + k = 0$ has equal roots, then find the value of k.
5. Does there exist a quadratic equation whose co – efficients are rational but both of its roots are irrational? Justify your answer.
6. Write the set of values of k for which the quadratic equation $2x^2 + kx + 8 = 0$ has real roots.
7. Solve the quadratic equation $2x^2 + ax - a^2 = 0$ for x.
8. Find the values of p for which the quadratic equation $4x^2 + px + 3 = 0$ has equal roots.
9. Solve for x: $\sqrt{3}x^2 - 2\sqrt{2}x - 2\sqrt{3} = 0$
10. Using the quadratic formula solve the following quadratic equation:
    $p^2x^2 + (p^2 - q^2)x - q^2 = 0$