Q1. Show that $x = -3$ is a solution of $x^2 + 6x + 9 = 0$.

Q2. Show that $x = -2$ is a solution of $3x^2 + 13x + 14 = 0$.

Q3. If $x = 3$ is one root of the quadratic equation $x^2 - 2kx - 6 = 0$,then find the value of k. Ans. k = $\frac{1}{2}$

Q4. If $x = -2$ is one root of the quadratic equation $3x^2 + 5x + 2k = 0$,then find the value of k. Ans. $k = -1$

Q5. If $x = -5$ is one root of the quadratic equation $2x^2 + px - 15 = 0$,then find the value of p. Ans. p = 7

Q6. Find the value/s of k for which $x = 2$ is the solution of the equation $kx^2 + 2x - 3 = 0$. Ans. k = $-\frac{1}{4}$

Q7. Find the value/s of k for which $x = -\frac{1}{2}$ is the solution of the equation $3x^2 + 2kx - 3 = 0$ Ans. k = $-\frac{9}{4}$

Q8. Find the roots of the following : (i) $x^2 + 5x + 6 = 0$ (ii) $x^2 - 5x + 6 = 0$ (iii) $x^2 + 5x - 6 = 0$
(iv) $x^2 - 5x - 6 = 0$ Ans. (i) $-2, -3$ (ii) $2, 3$ (iii) $-6, 1$ (iv) $6, -1$

Q9. Solve the following quadratic equations by factorization :

(i) $x^2 + 6x + 5 = 0$ (ii) $9x^2 - 3x - 2 = 0$ (iii) $x^2 - 8x + 16 = 0$ (iv) $2x^2 - x + \frac{1}{8} = 0$
(v) $2x^2 + x - 6 = 0$ (vi) $x^2 - 3x - 10 = 0$ (vii) $100x^2 - 20x + 1$

Ans. (i) $-5, -1$ (ii) $\frac{2}{3}, -\frac{1}{3}$ (iii) $4, 4$ (iv) $\frac{1}{4}, \frac{1}{4}$ (v) $-2, \frac{3}{2}$ (vi) $-2, 5$ (vii) $\frac{1}{10}, \frac{1}{10}$

Q10. Solve for x : $\sqrt{3}x^2 + 10x + 7\sqrt{3} = 0$. Ans. $-\sqrt{3}, \frac{-7}{\sqrt{3}}$

Q11. Solve for x : $\sqrt{2}x^2 + 7x + 5\sqrt{2} = 0$. $Ans.$ $\frac{-5\sqrt{2}}{2}, -\sqrt{2}$

Q12. Solve for x : $4\sqrt{3}x^2 + 5x - 2\sqrt{3} = 0$. $Ans.$ $\frac{\sqrt{3}}{4}, \frac{-2\sqrt{3}}{3}$

Q13. Find the roots of the following : (i) $3x^2 - 2\sqrt{6}x + 2 = 0$ (ii) $2x^2 + 5\sqrt{3}x + 6 = 0$ (iii) $x^2 - 3\sqrt{5}x + 10 = 0$
Ans. (i) $\sqrt{\frac{2}{3}}, \sqrt{\frac{2}{3}}$ (ii) $-\frac{\sqrt{3}}{2}, -2\sqrt{3}$ (iii) $\sqrt{5}, 2\sqrt{5}$

Q14. If x = 1 is a common root of the equations $ax^2 + ax + 3 = 0$ and $x^2 + x + b = 0$ then find ab. Ans. 3