

EduSahara™ Learning Center Assignment**Grade : Class X, ICSE****Chapter : Quadratic Equations****Name : Solving some complex Quadratic Equations - 2**

1. Solve : $\left(\frac{x}{(x+1)}\right)^2 + 15\left(\frac{x}{(x+1)}\right) + 54 = 0$

(i) $\left(\frac{-2}{3}\right), \left(\frac{-3}{4}\right)$ (ii) $\left(\frac{-6}{7}\right), \left(\frac{-9}{10}\right)$ (iii) $\left(\frac{-6}{5}\right), \left(\frac{-9}{8}\right)$ (iv) $\left(\frac{-4}{7}\right), \left(\frac{-7}{10}\right)$ (v) $\left(\frac{-8}{7}\right), \left(\frac{-11}{10}\right)$

2. Solve : $\sqrt{(4x-1)} = (x-1)$

(i) $(3 + \sqrt{21}), (3 - \sqrt{21})$ (ii) $(3\sqrt{4} + \sqrt{7}), (3\sqrt{4} - \sqrt{7})$

(iii) $(3 + \sqrt{14}), (3 - \sqrt{14})$ (iv) $(3\sqrt{5} + \sqrt{7}), (3\sqrt{5} - \sqrt{7})$

(v) $(3 + \sqrt{7}), (3 - \sqrt{7})$

3. Solve : $\sqrt{(4x^2+5x+1)} = (x+2)$

(i) $\left(-\frac{1}{6} - \frac{1}{6}\sqrt{74}\right), \left(-\frac{1}{6} + \frac{1}{6}\sqrt{74}\right)$ (ii) $\left(-\frac{1}{6} - \frac{1}{6}\sqrt{111}\right), \left(-\frac{1}{6} + \frac{1}{6}\sqrt{111}\right)$

(iii) $\left(-\frac{1}{6}\sqrt{4} - \frac{1}{6}\sqrt{37}\right), \left(-\frac{1}{6}\sqrt{4} + \frac{1}{6}\sqrt{37}\right)$ (iv) $\left(-\frac{1}{6} - \frac{1}{6}\sqrt{37}\right), \left(-\frac{1}{6} + \frac{1}{6}\sqrt{37}\right)$

(v) $\left(-\frac{1}{6}\sqrt{5} - \frac{1}{6}\sqrt{37}\right), \left(-\frac{1}{6}\sqrt{5} + \frac{1}{6}\sqrt{37}\right)$

4. Solve : $-\frac{2}{(-x-2)} + \frac{2}{(x+5)} = 3$

(i) $(-2\sqrt{3}), (-5\sqrt{3})$ (ii) $(-2\sqrt{5}), (-5\sqrt{5})$

(iii) $(-2\sqrt{2}), (-5\sqrt{2})$ (iv) $(-2), (-5)$

(v)
 $(-2\sqrt{4}), (-5\sqrt{4})$

5. Solve : $-\frac{2}{(x-5)} - \frac{5}{(-x-4)} = -\frac{2}{(x-2)}$

(i) $(\frac{41}{10} - \frac{3}{10} \sqrt{258})$, $(\frac{41}{10} + \frac{3}{10} \sqrt{258})$ (ii) $(\frac{41}{10} - \frac{3}{10} \sqrt{387})$, $(\frac{41}{10} + \frac{3}{10} \sqrt{387})$

(iii) $(\frac{41}{10} \sqrt{4} - \frac{3}{10} \sqrt{129})$, $(\frac{41}{10} \sqrt{4} + \frac{3}{10} \sqrt{129})$ (iv) $(\frac{41}{10} - \frac{3}{10} \sqrt{129})$, $(\frac{41}{10} + \frac{3}{10} \sqrt{129})$

(v) $(\frac{41}{10} \sqrt{5} - \frac{3}{10} \sqrt{129})$, $(\frac{41}{10} \sqrt{5} + \frac{3}{10} \sqrt{129})$

6. Solve : $-4\sqrt{5}x^2 + 3x + 2\sqrt{5} = 0$

(i) $\frac{\sqrt{5}}{(-4)}$, $\frac{2}{\sqrt{5}}$ (ii) $\frac{\sqrt{5}}{(-4)}$, $\frac{2}{\sqrt{20}}$

(iii) $\frac{\sqrt{20}}{(-4)}$, $\frac{2\sqrt{4}}{\sqrt{5}}$ (iv) $\frac{\sqrt{5}}{(-4\sqrt{4})}$, $\frac{2}{\sqrt{20}}$

(v) $\frac{\sqrt{20}}{(-4)}$, $\frac{2}{\sqrt{5}}$

7. Solve : $24x^2 - 10\sqrt{7}x + 7 = 0$

(i) $\frac{\sqrt{7}}{4}$, $\frac{\sqrt{7}}{6\sqrt{4}}$ (ii) $\frac{\sqrt{7}}{4\sqrt{4}}$, $\frac{\sqrt{7}}{6\sqrt{4}}$

(iii) $\frac{\sqrt{28}}{4}$, $\frac{\sqrt{7}}{6}$ (iv) $\frac{\sqrt{7}}{4}$, $\frac{\sqrt{7}}{6}$

(v)

$$\frac{\sqrt{28}}{4}, \frac{\sqrt{28}}{6}$$

8. Solve : $12x^2 - 22\sqrt{3}x + 24 = 0$

(i) $\frac{8}{\sqrt{12}}, \frac{3}{\sqrt{48}}$ (ii) $\frac{8}{\sqrt{12}}, \frac{3}{\sqrt{12}}$

(iii) $\frac{8\sqrt{4}}{\sqrt{12}}, \frac{3\sqrt{4}}{\sqrt{12}}$ (iv) $\frac{8}{\sqrt{48}}, \frac{3}{\sqrt{48}}$

(v) $\frac{8\sqrt{4}}{\sqrt{12}}, \frac{3}{\sqrt{12}}$

9. Solve : $x^2 + 8x + 11 = 0$

(i) $(-4 + \sqrt{5}), (-4 - \sqrt{5})$ (ii) $(-4 + \sqrt{10}), (-4 - \sqrt{10})$

(iii) $(-4\sqrt{5} + \sqrt{5}), (-4\sqrt{5} - \sqrt{5})$ (iv) $(-4\sqrt{4} + \sqrt{5}), (-4\sqrt{4} - \sqrt{5})$

(v) $(-4 + \sqrt{15}), (-4 - \sqrt{15})$

10. Find the roots of the quadratic equation correct to two decimal places $(4x^2 - 6x - 18) = 0$

(i) 5.00 , 0.50 (ii) 1.00 , 6.50 (iii) 2.00 , 5.50 (iv) 4.00 , 6.50 (v) 3.00 , -1.50

Assignment Key

- 1) (ii)
- 2) (v)
- 3) (iv)
- 4) (iv)
- 5) (iv)
- 6) (i)
- 7) (iv)
- 8) (ii)
- 9) (i)
- 10) (v)