EduSahara™ Assignment

Name : Solution of a Quadratic Equation Complex Problems

Chapter : Quadratic Equations

Grade : SSC Grade X

1. Solve : $\frac{(18x+1)}{(21x+2)}=\frac{(25x+2)}{(30x+1)}$

(i) $(6,\frac{1}{15})$ (ii) $(3,(\frac{-1}{15}))$ (iii) $(-3,\frac{1}{15})$ (iv) $(2,(\frac{-1}{13}))$ (v) $(1,(\frac{-1}{5}))$

2. Solve : $\frac{(2x+1)}{(x+1)}+\frac{(3x+1)}{(6x+1)}=\frac{86}{39}$

(i) $(0,(\frac{-2}{23}))$ (ii) $(4,(\frac{-2}{69}))$ (iii) $(1,(\frac{-4}{67}))$ (iv) $(3,(\frac{-4}{71}))$ (v) $(2,(\frac{-4}{69}))$

3. Solve : $(x^2-9x)^2-14(x^2-9x)+45=0$

(i) $(\frac{9}{2}+\frac{39}{2}),(\frac{9}{2}-\frac{39}{2}),(\frac{9}{2}+\frac{101}{2}),(\frac{9}{2}-\frac{101}{2})$ (ii) $(\frac{9}{2}+\frac{3}{2}\sqrt[4]{13}),(\frac{9}{2}-\frac{3}{2}\sqrt[4]{13}),(\frac{9}{2}+\frac{1}{2}\sqrt[4]{101}),(\frac{9}{2}-\frac{1}{2}\sqrt[4]{101})$

(iii) $(\frac{7}{2}+\frac{3}{2}\sqrt{13}),(\frac{7}{2}-\frac{3}{2}\sqrt{13}),(\frac{7}{2}+\frac{1}{2}\sqrt{101}),(\frac{7}{2}-\frac{1}{2}\sqrt{101})$

(iv) $(\frac{11}{2}+\frac{3}{2}\sqrt{13}),(\frac{11}{2}-\frac{3}{2}\sqrt{13}),(\frac{11}{2}+\frac{1}{2}\sqrt{101}),(\frac{11}{2}-\frac{1}{2}\sqrt{101})$

(v) $(\frac{9}{2}+\frac{3}{2}\sqrt{13}),(\frac{9}{2}-\frac{3}{2}\sqrt{13}),(\frac{9}{2}+\frac{1}{2}\sqrt{101}),(\frac{9}{2}-\frac{1}{2}\sqrt{101})$

4. Solve : $(x^4-13x^2+36)=0$

(i) $4,(-2),3,(-1)$ (ii) $1,(-5),0,(-4)$ (iii) $3,(-3),2,(-2)$ (iv) $6,0,4,0$ (v) $2,(-4),1,(-3)$

5. Solve : $(x+9)(x+10)(x+11)(x+12)=7920$

(i) $2,(-17)$ (ii) $(-4),(-22)$ (iii) $(-2),(-21)$ (iv) $(-1),(-20)$ (v) $0,(-19)$

6. Solve the quadratic equation $x+\frac{3}{x}=-4$

(i) $(0,-4)$ (ii) $(0,-3)$ (iii) $(2,-5)$ (iv) $(-1,-3)$ (v) $(2,-4)$

7. For what values of k are the roots of $(k-3)x^2+(k+32)x+(k-16)=0$ equal

(i) $((-\frac{26}{5}),51)$ (ii) $((-\frac{26}{5}),52)$ (iii) $((-\frac{16}{3}),52)$ (iv) $((-\frac{14}{3}),49)$ (v) $((-\frac{14}{3}),51)$

8. Solve : $\left(\frac{x}{(x+1)}\right)^2 - 8\left(\frac{x}{(x+1)}\right) + 15 = 0$

(i) $(\frac{-7}{4}),(\frac{-5}{2})$ (ii) $(\frac{-7}{6}),(\frac{-5}{4})$ (iii) $(\frac{-3}{4}),(\frac{-1}{2})$ (iv) $(\frac{-3}{2}),-2$ (v) $(\frac{-5}{4}),(\frac{-3}{2})$

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

(i) $(\frac{1}{2}+\frac{1}{2}\sqrt{5}),(\frac{1}{2}-\frac{1}{2}\sqrt{5})$ (ii) $(\frac{1}{2}+\frac{1}{2}\sqrt{10}),(\frac{1}{2}-\frac{1}{2}\sqrt{10})$ (iii) $(\frac{1}{2}+\frac{1}{2}\sqrt{15}),(\frac{1}{2}-\frac{1}{2}\sqrt{15})$

(iv) $(\frac{1}{2}\sqrt{4}+\frac{1}{2}\sqrt{5}),(\frac{1}{2}\sqrt{4}-\frac{1}{2}\sqrt{5})$ (v) $(\frac{1}{2}\sqrt{5}+\frac{1}{2}\sqrt{5}),(\frac{1}{2}\sqrt{5}-\frac{1}{2}\sqrt{5})$

10. Solve : $\sqrt{(-4x^2+27x-18)} = (x-8)$

(i) $(\frac{43}{10}\sqrt{4}+\frac{1}{10}\sqrt{209}),(\frac{43}{10}\sqrt{4}-\frac{1}{10}\sqrt{209})$ (ii) $(\frac{43}{10}+\frac{1}{10}\sqrt{627}),(\frac{43}{10}-\frac{1}{10}\sqrt{627})$

(iii) $(\frac{43}{10}+\frac{1}{10}\sqrt{209}),(\frac{43}{10}-\frac{1}{10}\sqrt{209})$ (iv) $(\frac{43}{10}+\frac{1}{10}\sqrt{418}),(\frac{43}{10}-\frac{1}{10}\sqrt{418})$

(v) $(\frac{43}{10}\sqrt{5}+\frac{1}{10}\sqrt{209}),(\frac{43}{10}\sqrt{5}-\frac{1}{10}\sqrt{209})$

11. Solve : $\frac{4}{(-x+1)} + \frac{2}{(-x+2)} = 4$

(i) $\sqrt{5},2\sqrt{5}$ (ii) $\sqrt{4},2\sqrt{4}$ (iii) $\sqrt{3},2\sqrt{3}$ (iv) $\sqrt{2},2\sqrt{2}$ (v) $1,2$

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

(i) $(-\frac{7}{10}-\frac{1}{10}\sqrt{1538}),(-\frac{7}{10}+\frac{1}{10}\sqrt{1538})$ (ii) $(-\frac{7}{10}-\frac{1}{10}\sqrt{2307}),(-\frac{7}{10}+\frac{1}{10}\sqrt{2307})$

(iii) $(-\frac{7}{10}\sqrt{5}-\frac{1}{10}\sqrt{769}),(-\frac{7}{10}\sqrt{5}+\frac{1}{10}\sqrt{769})$ (iv) $(-\frac{7}{10}-\frac{1}{10}\sqrt{769}),(-\frac{7}{10}+\frac{1}{10}\sqrt{769})$

(v) $(-\frac{7}{10}\sqrt{4}-\frac{1}{10}\sqrt{769}),(-\frac{7}{10}\sqrt{4}+\frac{1}{10}\sqrt{769})$

13. Solve : $9\sqrt{5}x^2 - 50x + 5\sqrt{5} = 0$

(i) $\frac{\sqrt{5}}{9},\frac{5}{\sqrt{20}}$ (ii) $\frac{\sqrt{5}}{9\sqrt{4}},\frac{5}{\sqrt{20}}$ (iii) $\frac{\sqrt{20}}{9},\frac{5}{\sqrt{5}}$ (iv) $\frac{\sqrt{20}}{9},\frac{5\sqrt{4}}{\sqrt{5}}$ (v) $\frac{\sqrt{5}}{9},\frac{5}{\sqrt{5}}$

Assignment Key

1) (ii)	2) (v)	3) (v)	4) (iii)	5) (iv)	6) (iv)
7) (iii)	8) (v)	9) (i)	10) (iii)	11) (v)	12) (iv)
13) (v)					