EduSahara™ Assignment

Name : Solving some complex Quadratic Equations

Chapter : Quadratic Equations

Grade : ICSE Grade X

1. Solve : $\frac{(45x+1)}{(19x+1)} = \frac{(17x+1)}{(7x+1)}$

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

2. Solve : $\frac{(2x+1)}{(x-2)} + \frac{(2x+3)}{(x-3)} = \frac{61}{6}$

   (i) $(\frac{88}{39},6)$ (ii) $(\frac{86}{37},8)$ (iii) $(\frac{84}{37},5)$ (iv) $(\frac{16}{7},4)$ (v) $(\frac{82}{37},2)$

3. Solve : $(x^2-4x)^2 - 15(x^2-4x) + 54 = 0$

   (i) $(5+\sqrt{13}),(5-\sqrt{13}),(5+\sqrt{10}),(5-\sqrt{10})$ (ii) $(2+\sqrt[4]{13}),(2-\sqrt[4]{13}),(2+\sqrt[4]{10}),(2-\sqrt[4]{10})$

   (iii) $(2+\sqrt{13}),(2-\sqrt{13}),(2+\sqrt{10}),(2-\sqrt{10})$ (iv) $(0+\sqrt{13}),(0-\sqrt{13}),(0+\sqrt{10}),(0-\sqrt{10})$

   (v) $(2+13),(2-13),(2+10),(2-10)$

4. Solve : $(x^4-10x^2+24)=0$

   (i) $6,(-6),1,(-3)$ (ii) $\sqrt{8},(-\sqrt{9}),5,1$ (iii) $\sqrt[4]{6},(-\sqrt[4]{6}),3,(-1)$ (iv) $\sqrt{3},(-\sqrt{3}),0,(-5)$

   (v) $\sqrt{6},(-\sqrt{6}),2,(-2)$

5. Solve : $(x-2)(x-1)x(x+1)=360$

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

6. Solve the quadratic equation $x - \frac{14}{x} = -5$

   (i) $(3,-7)$ (ii) $(3,-8)$ (iii) $(2,-7)$ (iv) $(5,-8)$ (v) $(5,-10)$

7. For what values of k are the roots of $(k+21)x^2 + kx + (k-24)=0$ equal

   (i) $((-23),28)$ (ii) $((-24),28)$ (iii) $((-22),27)$ (iv) $((-22),25)$ (v) $((-23),27)$

8. If p and q are the roots of $(x^2+12x+27)=0$, find the equation whose roots are $p+\frac{1}{q}$ and $q+\frac{1}{p}$

(i) $(33x^2+410x+952)=0$ (ii) $(9x^2+118x+280)=0$ (iii) $(27x^2+336x+784)=0$

(iv) $(27x^2+330x+728)=0$

9. If -4 is the root of $(x^2+kx+8)=0$, find k and the other root

(i) $k=5$, and the other root = -3 (ii) $k=4$, and the other root = -5 (iii) $k=6$, and the other root = -2

(iv) $k=7$, and the other root = -1 (v) $k=8$, and the other root = 0

10. Find the quadratic equation whose roots are $(9-\sqrt{7})$ and $(9+\sqrt{7})$

(i) $(x^2-16x+74)=0$ (ii) $(x^2-20x+74)=0$ (iii) $(-18x+74)=0$ (iv) $(x^2-18x+74)=0$

(v) $(2x^2-18x+74)=0$

11. If ax^2+bx+c is exactly divisible by $(x-9)$, $(x+6)$ and leaves a remainder of -26 when divided by $(x+4)$, find a, b and c

(i) $a=1, b=-1, c=-51$ (ii) $a=1, b=-2, c=-53$ (iii) $a=1, b=-5, c=-57$ (iv) $a=1, b=-3, c=-54$

(v) $a=1, b=-4, c=-55$

12. Find a and b in order that $(x^3+5x^2)+(ax+b)$ may be exactly divisible by (x^2+x-72)

(i) $a=-67, b=-287$ (ii) $a=-65, b=-286$ (iii) $a=-71, b=-291$ (iv) $a=-68, b=-288$ (v) $a=-69, b=-289$

Assignment Key

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