EduSahara™ Assignment

Name : Solving some complex Quadratic Equations

Chapter : Quadratic Equations

Grade : ICSE Grade X

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1. Solve : $\frac{(2x+4)}{(8x+3)} = \frac{(x-5)}{(x+10)}$

(i) $((\frac{-1}{2}),13)$ (ii) $((\frac{-5}{6}),11)$ (iii) $(\frac{5}{6},-11)$ (iv) $((\frac{-5}{4}),10)$ (v) $((\frac{-7}{6}),8)$

2. Solve : $\frac{(2x+1)}{(x+2)} + \frac{(4x+1)}{(3x+2)} = \frac{142}{55}$

(i) $(3,(\frac{-29}{31}))$ (ii) $(1,-1)$ (iii) $(4,(\frac{-29}{33}))$ (iv) $(5,(\frac{-27}{31}))$ (v) $(2,-1)$

3. Solve : $(x^2-x)^2 - 13(x^2-x) + 40 = 0$

(i) $(\frac{1}{2}+\frac{1}{2}\sqrt{33}),(\frac{1}{2}-\frac{1}{2}\sqrt{33}),(\frac{1}{2}+\frac{1}{2}\sqrt{21}),(\frac{1}{2}-\frac{1}{2}\sqrt{21})$

(ii) $(\frac{1}{2}+\frac{1}{2}\sqrt[4]{33}),(\frac{1}{2}-\frac{1}{2}\sqrt[4]{33}),(\frac{1}{2}+\frac{1}{2}\sqrt[4]{21}),(\frac{1}{2}-\frac{1}{2}\sqrt[4]{21})$ (iii) $(\frac{1}{2}+\frac{33}{2}),(\frac{1}{2}-\frac{33}{2}),(\frac{1}{2}+\frac{21}{2}),(\frac{1}{2}-\frac{21}{2})$

(iv) $(-\frac{1}{2}+\frac{1}{2}\sqrt{33}),(-\frac{1}{2}-\frac{1}{2}\sqrt{33}),(-\frac{1}{2}+\frac{1}{2}\sqrt{21}),(-\frac{1}{2}-\frac{1}{2}\sqrt{21})$

(v) $(\frac{3}{2}+\frac{1}{2}\sqrt{33}),(\frac{3}{2}-\frac{1}{2}\sqrt{33}),(\frac{3}{2}+\frac{1}{2}\sqrt{21}),(\frac{3}{2}-\frac{1}{2}\sqrt{21})$

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

(i) $\sqrt{5},(-\sqrt{5}),3,2$ (ii) $\sqrt{2},(-\sqrt{2}),1,(-1)$ (iii) $\sqrt{-1},(-\sqrt{\frac{1}{2}}),(-1),(-3)$ (iv) $2,(-2),0,(-2)$

(v) $\sqrt[4]{2},(-\sqrt[4]{2}),2,0$

5. Solve : $(x+2)(x+3)(x+4)(x+5)=3024$

(i) $3,(-12)$ (ii) $5,(-10)$ (iii) $2,(-13)$ (iv) $6,(-9)$ (v) $4,(-11)$

6. Solve the quadratic equation $x + \frac{16}{x} = -10$

(i) $(-2,-8)$ (ii) $(-1,-8)$ (iii) $(1,-9)$ (iv) $(-1,-9)$ (v) $(1,-11)$

7. For what values of k are the roots of $(k-20)x^2 + (k+43)x + (k-37)=0$ equal

(i) $(\frac{11}{3},101)$ (ii) $(\frac{17}{5},101)$ (iii) $(\frac{13}{3},99)$ (iv) $(\frac{17}{5},100)$ (v) $(\frac{13}{3},100)$

8. If p and q are the roots of $(x^2-5x-14)=0$, find the equation whose roots are $p+\frac{1}{q}$ and $q+\frac{1}{p}$

(i) $(14x^2-51x-143)=0$ (ii) $(6x^2-29x-65)=0$ (iii) $(14x^2-65x-169)=0$ (iv) $(14x^2-69x-143)=0$

(v) $(7x^2-36x-91)=0$

9. If -8 is the root of $(x^2+kx-48)=0$, find k and the other root

(i) $k=1$, and the other root $=5$ (ii) $k=-1$, and the other root $=3$ (iii) $k=5$, and the other root $=8$

(iv) $k=3$, and the other root $=7$ (v) $k=2$, and the other root $=6$

10. Find the quadratic equation whose roots are $(3+9\sqrt{7})$ and $(3-9\sqrt{7})$

(i) $(x^2-8x-558)=0$ (ii) $(-6x-558)=0$ (iii) $(x^2-4x-558)=0$ (iv) $(x^2-6x-558)=0$

(v) $(2x^2-6x-558)=0$

11. If ax^2+bx+c is exactly divisible by $(x+3)$, $(x+9)$ and leaves a remainder of -5 when divided by $(x+4)$, find a, b and c

(i) $a=1, b=12, c=27$ (ii) $a=1, b=11, c=26$ (iii) $a=1, b=14, c=30$ (iv) $a=1, b=13, c=28$

(v) $a=1, b=10, c=24$

12. Find a and b in order that $(x^3+7x^2)+(ax+b)$ may be exactly divisible by $(x^2+8x+12)$

(i) $a=4, b=-12$ (ii) $a=6, b=-9$ (iii) $a=3, b=-13$ (iv) $a=2, b=-15$ (v) $a=5, b=-11$

Assignment Key

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

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