EduSahara™ Assignment

Name : Solving some complex Quadratic Equations

Chapter : Quadratic Equations

Grade : ICSE Grade X

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1. Solve : $\frac{(x+3)}{(9x+2)} = \frac{(3x+1)}{(20x+3)}$

(i) $(\frac{1}{7},10)$ (ii) $((\frac{-1}{5}),6)$ (iii) $((\frac{-3}{7}),5)$ (iv) $(\frac{1}{7},-7)$ (v) $((\frac{-1}{7}),7)$

2. Solve : $\frac{(x-8)}{(x-11)} + \frac{(x-6)}{(x-10)} = \frac{29}{6}$

(i) $(\frac{178}{17},13)$ (ii) $(\frac{198}{19},14)$ (iii) $(\frac{180}{17},16)$ (iv) $(\frac{158}{15},12)$ (v) $(\frac{176}{17},10)$

3. Solve : $(x^2-8x)^2 - 11(x^2-8x) + 30=0$

(i) $(6+\sqrt{22}),(6-\sqrt{22}),(6+\sqrt{21}),(7-\sqrt{21})$ (ii) $(4+\sqrt[4]{22}),(4-\sqrt[4]{22}),(4+\sqrt[4]{21}),(4-\sqrt[4]{21})$

(iii) $(4+22),(4-22),(4+21),(4-21)$ (iv) $(4+\sqrt{22}),(4-\sqrt{22}),(4+\sqrt{21}),(4-\sqrt{21})$

(v) $(1+\sqrt{22}),(1-\sqrt{22}),(2+\sqrt{21}),(1-\sqrt{21})$

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

(i) $\sqrt{5},(-\sqrt{4}),4,1$ (ii) $2,(-2),0,(-2)$ (iii) $\sqrt{\frac{1}{2}},(-\sqrt{\frac{1}{2}}),(-2),(-4)$ (iv) $\sqrt{2},(-\sqrt{2}),1,(-1)$

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

5. Solve : $(x+3)(x+4)(x+5)(x+6)=3024$

(i) $2,(-13)$ (ii) $4,(-11)$ (iii) $5,(-9)$ (iv) $0,(-15)$ (v) $3,(-12)$

6. Solve the quadratic equation $x + 1 = \frac{20}{x}$

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

7. For what values of k are the roots of $kx^2 + (k+24)x + (k+9)=0$ equal

(i) $((-11),15)$ (ii) $((-10),15)$ (iii) $((-11),16)$ (iv) $((-12),16)$ (v) $((-10),13)$

8. If p and q are the roots of $(x^2+6x-27)=0$, find the equation whose roots are $p+\frac{1}{q}$ and $q+\frac{1}{p}$

(i) $(27x^2+156x-676)=0$ (ii) $(45x^2+248x-1092)=0$ (iii) $(9x^2+54x-208)=0$

(iv) $(21x^2+116x-572)=0$ (v) $(9x^2+46x-208)=0$

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

(i) $k=11$, and the other root $=1$ (ii) $k=10$, and the other root $=0$ (iii) $k=7$, and the other root $=-3$

(iv) $k=9$, and the other root $=-1$ (v) $k=8$, and the other root $=-2$

10. Find the quadratic equation whose roots are $(3+7\sqrt{5})$ and $(3-7\sqrt{5})$

(i) $(-6x-236)=0$ (ii) $(x^2-6x-236)=0$ (iii) $(x^2-9x-236)=0$ (iv) $(x^2-4x-236)=0$

(v) $(2x^2-6x-236)=0$

11. If ax^2+bx+c is exactly divisible by $(x-9)$, $(x+3)$ and leaves a remainder of -20 when divided by $(x+1)$, find a, b and c

(i) $a=1, b=-5, c=-26$ (ii) $a=1, b=-7, c=-28$ (iii) $a=1, b=-8, c=-30$ (iv) $a=1, b=-6, c=-27$

(v) $a=1, b=-3, c=-24$

12. Find a and b in order that $(x^3+16x^2)+(ax+b)$ may be exactly divisible by $(x^2+12x+27)$

(i) $a=76, b=109$ (ii) $a=74, b=107$ (iii) $a=73, b=105$ (iv) $a=77, b=111$ (v) $a=75, b=108$

Assignment Key

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

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