EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Quadratic Equations

Grade : SSC Grade X

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1. Find the discriminant of the quadratic equation $(x^2-4x+4)=0$

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

2. For what values of k are the roots of $(k+5)x^2+(k-30)x+(k-43)=0$ equal

   (i) $((-\frac{40}{3}),44)$ (ii) $((-\frac{38}{3}),41)$ (iii) $((-\frac{66}{5}),43)$ (iv) $((-\frac{66}{5}),44)$ (v) $((-\frac{38}{3}),43)$

3. A number is of two digits. The digit in unit's place is the square of the digit in ten's place. The number formed by reversing the digits exceeds twice the number by 15 . Find the number

   (i) 42 (ii) 38 (iii) 36 (iv) 39 (v) 40

4. Solve : $-48x^2+2\sqrt{7}x+7=0$

   (i) $\frac{\sqrt{28}}{(-8)},\frac{\sqrt{28}}{6}$ (ii) $\frac{\sqrt{7}}{(-8)},\frac{\sqrt{7}}{6\sqrt{4}}$ (iii) $\frac{\sqrt{28}}{(-8)},\frac{\sqrt{7}}{6}$ (iv) $\frac{\sqrt{7}}{(-8)},\frac{\sqrt{7}}{6}$ (v) $\frac{\sqrt{7}}{(-8\sqrt{4})},\frac{\sqrt{7}}{6\sqrt{4}}$

5. The area of a rectangular room is 392.00 sq.m. If the length and breadth are increased by 4 m, the area would become 660.00 sq.m. Find the original dimensions of the room

   (i) 7.00 m , 56.00 m (ii) 4.00 m , 98.00 m (iii) 8.00 m , 49.00 m (iv) 3.00 m , 130.67 m

6. Solve : $2\sqrt{13}x^2-31x+9\sqrt{13}=0$

   (i) $\frac{\sqrt{13}}{2},\frac{9}{\sqrt{52}}$ (ii) $\frac{\sqrt{13}}{2},\frac{9}{\sqrt{13}}$ (iii) $\frac{\sqrt{13}}{2\sqrt{4}},\frac{9}{\sqrt{52}}$ (iv) $\frac{\sqrt{52}}{2},\frac{9}{\sqrt{13}}$ (v) $\frac{\sqrt{52}}{2},\frac{9\sqrt{4}}{\sqrt{13}}$

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

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

8. Solve : $\sqrt{(x-4)}=(x-6)$

   (i) $8,5$ (ii) $8\sqrt{4},5\sqrt{4}$ (iii) $8\sqrt{2},5\sqrt{2}$ (iv) $8\sqrt{3},5\sqrt{3}$ (v) $8\sqrt{5},5\sqrt{5}$

9. Solve : $x^2 - 4x - 3 = 0$

(i) $(2\sqrt{4}+\sqrt{7}),(2\sqrt{4}-\sqrt{7})$ (ii) $(2\sqrt{5}+\sqrt{7}),(2\sqrt{5}-\sqrt{7})$ (iii) $(2+\sqrt{7}),(2-\sqrt{7})$ (iv) $(2+\sqrt{21}),(2-\sqrt{21})$

(v) $(2+\sqrt{14}),(2-\sqrt{14})$

10. Solve : $13x^2 + 6\sqrt{13}x + 8 = 0$

(i) $\frac{(-4)}{\sqrt{13}}, \frac{(-2)}{\sqrt{52}}$ (ii) $\frac{(-4)}{\sqrt{13}}, \frac{(-2)}{\sqrt{13}}$ (iii) $\frac{(-4\sqrt{4})}{\sqrt{13}}, \frac{(-2)}{\sqrt{13}}$ (iv) $\frac{(-4)}{\sqrt{52}}, \frac{(-2)}{\sqrt{52}}$ (v) $\frac{(-4\sqrt{4})}{\sqrt{13}}, \frac{(-2\sqrt{4})}{\sqrt{13}}$

11. Solve : $27x^2b^2 - 42a^2xb + 16a^4 = 0$

(i) $\frac{2a^2}{b}, \frac{8a^2}{7b}$ (ii) $\frac{4a^2}{3b}, \frac{10a^2}{9b}$ (iii) $\frac{2a^2}{3b}, \frac{8a^2}{9b}$ (iv) $\frac{2a^2}{5b}, \frac{8a^2}{11b}$ (v) $0, \frac{2a^2}{3b}$

12. Solve : $(x^4-7x^2+6)=0$

(i) $\sqrt{6},(-\sqrt{6}),1,(-1)$ (ii) $\sqrt[4]{6},(-\sqrt[4]{6}),2,0$ (iii) $6,(-6),0,(-2)$ (iv) $\sqrt{4},(-\sqrt{3}),(-2),(-4)$

(v) $\sqrt{9},(-\sqrt{9}),3,2$

13. Solve : $63x^2 + 19abx - 4a^2b^2 = 0$

(i) $-\frac{4ab}{9}, \frac{ab}{7}$ (ii) $-\frac{2ab}{9}, \frac{3ab}{7}$ (iii) $-\frac{4ab}{7}, \frac{ab}{5}$ (iv) $-\frac{4ab}{11}, \frac{ab}{9}$ (v) $-\frac{2ab}{3}, -\frac{ab}{7}$

14. Find the roots of the quadratic equation $(30x^2-18x)=0$

(i) $(\frac{3}{7},-1)$ (ii) $(\frac{3}{5},0)$ (iii) $(\frac{3}{7},0)$ (iv) $(1,-2)$ (v) $(1,-1)$

15. Find the number which exceeds its reciprocal by $19\frac{19}{20}$

(i) 19 (ii) 21 (iii) 20 (iv) 23 (v) 17

16. If the difference of two numbers is 7 and their product is -6, find the numbers

(i) $(-2),(-9)$ or $2,9$ (ii) $0,(-7)$ or $0,7$ (iii) $2,(-5)$ or $(-2),5$ (iv) $4,(-4)$ or $(-4),4$ (v) $1,(-6)$ or $(-1),6$

17. Find the roots of the quadratic equation $(x^2+10x+9)=0$

(i) $(2,-10)$ (ii) $(2,-12)$ (iii) $(0,-9)$ (iv) $(-1,-9)$ (v) $(0,-10)$

18. A play field is $70.00\ m$ by $60.00\ m$. It has a road all around it on the outside. Find the width of the road if its area is $\frac{8}{7}$ of the area of the play field

(i) 16.00 m (ii) 17.00 m (iii) 15.00 m (iv) 13.00 m (v) 14.00 m

19. The product of two consecutive numbers is 210. Find the numbers

(i) -16 , -15 or 16 , 15 (ii) -15 , -14 or 15,14 (iii) -18 , -17 or 18 , 17 (iv) -14 , -13 or 14 , 13

(v) -12 , -12 or 12 , 12

20. Find the roots of the quadratic equation $(63x^2+62x+15)=0$

(i) $((\frac{-3}{7}),(\frac{-5}{9}))$ (ii) $((\frac{-1}{7}),(\frac{-7}{9}))$ (iii) $((\frac{-1}{3}),(\frac{-5}{9}))$ (iv) $((\frac{-1}{7}),(\frac{-5}{7}))$ (v) $((\frac{-1}{3}),(\frac{-5}{7}))$

21. Solve the quadratic equation $x-\ 1=\frac{30}{x}$

(i) $(7,-5)$ (ii) $(9,-7)$ (iii) $(7,-6)$ (iv) $(9,-6)$ (v) $(6,-5)$

22. The denominator of a fraction exceeds the numerator by 3. The square of the fraction is equal to $\frac{64}{121}$. Find the fraction

(i) $\frac{8}{11}$ (ii) $\frac{10}{11}$ (iii) $\frac{8}{13}$ (iv) $\frac{8}{9}$ (v) $\frac{6}{11}$

23. Solve : $(x+4)(x+5)(x+6)(x+7)=3024$

(i) $5,(-11)$ (ii) $1,(-14)$ (iii) $2,(-13)$ (iv) $0,(-15)$ (v) $3,(-12)$

24. Find the discriminant of the quadratic equation $(x^2+8x+16)=0$

(i) 0 (ii) 1 (iii) 3 (iv) -3 (v) -1

25. A can do a work in x days and B can do it in $(x-16)$ days. Both of them working together can do it in -6 days. Calculate x

(i) 13 (ii) 12 (iii) 11 (iv) 14 (v) 9

Assignment Key

1) (iv)	2) (i)	3) (iv)	4) (iv)	5) (i)	6) (ii)
7) (ii)	8) (i)	9) (iii)	10) (ii)	11) (iii)	12) (i)
13) (i)	14) (ii)	15) (iii)	16) (v)	17) (iv)	18) (iii)
19) (ii)	20) (i)	21) (v)	22) (i)	23) (iii)	24) (i)
25) (ii)					

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