EduSahara™ Assignment

Name : Solution of a Quadratic Equation

Chapter : Quadratic Equations

Grade : SSC Grade X

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1. Find the discriminant of the quadratic equation $(x^2-3x-10)=0$

   (i) 48 (ii) 52 (iii) 47 (iv) 49 (v) 50

2. Find the discriminant of the quadratic equation $(2x^2-5x+2)=0$

   (i) 9 (ii) 6 (iii) 8 (iv) 10 (v) 12

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

   (i) -28 (ii) -29 (iii) -30 (iv) -26 (v) -27

4. Find the discriminant of the quadratic equation $(8x^2-16x+20)=0$

   (i) -382 (ii) -384 (iii) -385 (iv) -383 (v) -387

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

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

6. Find the discriminant of the quadratic equation $(25x^2+20x+4)=0$

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

7. Find the roots of the quadratic equation $(x^2-17x+72)=0$

   (i) $(12,7)$ (ii) $(9,8)$ (iii) $(10,8)$ (iv) $(12,6)$ (v) $(10,7)$

8. Find the roots of the quadratic equation $(x^2+9x+18)=0$

   (i) $(-2,-6)$ (ii) $(-3,-6)$ (iii) $(-1,-7)$ (iv) $(-1,-8)$ (v) $(-2,-7)$

9. Find the roots of the quadratic equation $(18x^2-43x-5)=0$

   (i) $(\frac{7}{2},(\frac{-1}{7}))$ (ii) $(\frac{9}{4},(\frac{-1}{9}))$ (iii) $(\frac{7}{2},(\frac{-1}{3}))$ (iv) $(\frac{9}{4},(\frac{-1}{7}))$ (v) $(\frac{5}{2},(\frac{-1}{9}))$

10. Find the roots of the quadratic equation $(72x^2-5x-12)=0$

   (i) $(\frac{4}{11},(\frac{-1}{2}))$ (ii) $(\frac{2}{3},(\frac{-1}{2}))$ (iii) $(\frac{4}{11},(\frac{-3}{8}))$ (iv) $(\frac{4}{9},(\frac{-3}{8}))$ (v) $(\frac{2}{3},(\frac{-5}{8}))$

11. Solve : $20x^2 - abx - a^2b^2 = 0$

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

12. Solve : $63x^2b^2 + 50axb + 8a^2 = 0$

(i) $-\frac{2a}{11b}, -\frac{4a}{9b}$ (ii) $-\frac{2a}{7b}, -\frac{4a}{5b}$ (iii) $-\frac{2a}{9b}, -\frac{4a}{7b}$ (iv) $-\frac{4a}{9b}, -\frac{6a}{7b}$ (v) $0, -\frac{2a}{7b}$

13. Solve : $15x^2 + 4ax - 3a^2 = 0$

(i) $-\frac{3a}{5}, \frac{2a}{6}$ (ii) $-\frac{a}{5}, \frac{2a}{3}$ (iii) $-a, \frac{a}{2}$ (iv) $-\frac{3a}{7}, \frac{a}{4}$ (v) $-a, 0$

14. Solve : $21x^2 - 22bx + 5b^2 = 0$

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

15. Solve : $35x^2a^2 + 39xa + 10 = 0$

(i) $0, -\frac{3}{7a}$ (ii) $-\frac{2}{5a}, -\frac{5}{7a}$ (iii) $-\frac{2}{3a}, -\frac{1}{a}$ (iv) $-\frac{4}{5a}, -\frac{1}{a}$ (v) $-\frac{2}{7a}, -\frac{5}{9a}$

16. Solve : $8x^2b^2 + 6xb + 1 = 0$

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

17. Solve : $18x^2 - 17a^2bx + 4a^4b^2 = 0$

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

18. Solve : $4x^2a^4b^2 + 4xa^2b + 1 = 0$

(i) $-\frac{1}{a^2b}, -\frac{3}{4a^2b}$ (ii) $-\frac{3}{2a^2b}, -\frac{5}{6a^2b}$ (iii) $-\frac{1}{4a^2b}, -\frac{3}{8a^2b}$ (iv) $-\frac{1}{2a^2b}, -\frac{1}{2a^2b}$ (v) $\frac{1}{2a^2b}, -\frac{1}{6a^2b}$

19. Solve : $12x^2b^2 - 4a^2xb - 5a^4 = 0$

(i) $\frac{5a^2}{4b}, -\frac{a^2}{b}$ (ii) $\frac{7a^2}{6b}, \frac{a^2}{2b}$ (iii) $\frac{a^2}{2b}, -\frac{3a^2}{2b}$ (iv) $\frac{5a^2}{6b}, -\frac{a^2}{2b}$ (v) $\frac{5a^2}{8b}, -\frac{a^2}{4b}$

20. Solve : $16x^2a^4 - 10bxa^2 + b^2 = 0$

(i) $\frac{b}{10a^2}, \frac{b}{4a^2}$ (ii) $\frac{b}{6a^2}, \frac{b}{a^2}$ (iii) $\frac{b}{8a^2}, \frac{b}{2a^2}$ (iv) $\frac{3b}{8a^2}, \frac{3b}{2a^2}$ (v) $-\frac{b}{8a^2}, -\frac{b}{2a^2}$

21. Find the roots of the quadratic equation $(2x^2 - 2x - 7) = 0$

(i) $((\frac{1}{2} + \frac{1}{2}\sqrt[4]{15}), (\frac{1}{2} - \frac{15}{2}))$ (ii) $((\frac{3}{2} + \frac{1}{2}\sqrt{15}), (-\frac{1}{2} - \frac{1}{2}\sqrt{15}))$ (iii) $((\frac{1}{2} + \frac{1}{2}\sqrt{15}), (\frac{1}{2} - \frac{1}{2}\sqrt{15}))$

(iv) $((\frac{1}{2} + \frac{1}{2}\sqrt[4]{15}), (\frac{1}{2} - \frac{1}{2}\sqrt{15}))$ (v) $((\frac{3}{2} + \frac{1}{2}\sqrt{15}), (\frac{1}{2} - \frac{15}{2}))$

22. If 6 is the root of $(x^2 + kx - 6) = 0$, find k and the other root

(i) $k = -8$, and the other root $= -4$ (ii) $k = -2$, and the other root $= 2$ (iii) $k = -5$, and the other root $= -1$

(iv) $k = -6$, and the other root $= -2$ (v) $k = -4$, and the other root $= 0$

23. Solve : $7\sqrt{3}x^2 + 53x - 8\sqrt{3} = 0$

(i) $\frac{\sqrt{3}}{7\sqrt{4}}, \frac{(-8)}{\sqrt{12}}$ (ii) $\frac{\sqrt{12}}{7}, \frac{(-8\sqrt{4})}{\sqrt{3}}$ (iii) $\frac{\sqrt{3}}{7}, \frac{(-8)}{\sqrt{12}}$ (iv) $\frac{\sqrt{12}}{7}, \frac{(-8)}{\sqrt{3}}$ (v) $\frac{\sqrt{3}}{7}, \frac{(-8)}{\sqrt{3}}$

24. Solve : $-24x^2 + 2\sqrt{10}x + 10 = 0$

(i) $\frac{\sqrt{40}}{4}, \frac{\sqrt{40}}{(-6)}$ (ii) $\frac{\sqrt{10}}{4}, \frac{\sqrt{10}}{(-6\sqrt{4})}$ (iii) $\frac{\sqrt{10}}{4\sqrt{4}}, \frac{\sqrt{10}}{(-6\sqrt{4})}$ (iv) $\frac{\sqrt{40}}{4}, \frac{\sqrt{10}}{(-6)}$ (v) $\frac{\sqrt{10}}{4}, \frac{\sqrt{10}}{(-6)}$

25. Solve : $12x^2 - 4\sqrt{3}x - 24 = 0$

(i) $\frac{6}{\sqrt{48}}, \frac{(-4)}{\sqrt{48}}$ (ii) $\frac{6\sqrt{4}}{\sqrt{12}}, \frac{(-4\sqrt{4})}{\sqrt{12}}$ (iii) $\frac{6}{\sqrt{12}}, \frac{(-4)}{\sqrt{48}}$ (iv) $\frac{6\sqrt{4}}{\sqrt{12}}, \frac{(-4)}{\sqrt{12}}$ (v) $\frac{6}{\sqrt{12}}, \frac{(-4)}{\sqrt{12}}$

26. Solve : $x^2 + 6x + 2 = 0$

(i) $(-3\sqrt{5}+\sqrt{7}),(-3\sqrt{5}-\sqrt{7})$ (ii) $(-3+\sqrt{7}),(-3-\sqrt{7})$ (iii) $(-3+\sqrt{21}),(-3-\sqrt{21})$

(iv) $(-3\sqrt{4}+\sqrt{7}),(-3\sqrt{4}-\sqrt{7})$ (v) $(-3+\sqrt{14}),(-3-\sqrt{14})$

27. Find the roots of the quadratic equation correct to two decimal places $(16x^2+20x+6)=0$

(i) 0.50 , 0.25 (ii) 7.50 , 7.25 (iii) 1.50 , 1.25 (iv) 6.50 , 6.25 (v) -0.50 , -0.75

Assignment Key

1) (iv)	2) (i)	3) (i)	4) (ii)	5) (iii)	6) (i)
7) (ii)	8) (ii)	9) (v)	10) (iv)	11) (ii)	12) (iii)
13) (i)	14) (ii)	15) (ii)	16) (iv)	17) (iv)	18) (iv)
19) (iv)	20) (iii)	21) (iii)	22) (iii)	23) (v)	24) (v)
25) (v)	26) (ii)	27) (v)			

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