



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

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

2. Solve : $\frac{(x-6)}{(x-4)} + \frac{(x-9)}{(x+2)} = \frac{79}{91}$

- (i) $(11, \frac{256}{103})$ (ii) $(14, \frac{258}{103})$ (iii) $(10, \frac{252}{101})$ (iv) $(12, \frac{52}{21})$ (v) $(8, \frac{254}{103})$

3. Solve : $(x^2-9x)^2 - 9(x^2-9x) + 8=0$

- (i) $(\frac{9}{2} + \frac{1}{2}\sqrt{113}), (\frac{9}{2} - \frac{1}{2}\sqrt{113}), (\frac{9}{2} + \frac{1}{2}\sqrt{85}), (\frac{9}{2} - \frac{1}{2}\sqrt{85})$ (ii) $(\frac{9}{2} + \frac{113}{2}), (\frac{9}{2} - \frac{113}{2}), (\frac{9}{2} + \frac{85}{2}), (\frac{9}{2} - \frac{85}{2})$
- (iii) $(\frac{11}{2} + \frac{1}{2}\sqrt{113}), (\frac{11}{2} - \frac{1}{2}\sqrt{113}), (\frac{11}{2} + \frac{1}{2}\sqrt{85}), (\frac{11}{2} - \frac{1}{2}\sqrt{85})$
- (iv) $(\frac{7}{2} + \frac{1}{2}\sqrt{113}), (\frac{7}{2} - \frac{1}{2}\sqrt{113}), (\frac{7}{2} + \frac{1}{2}\sqrt{85}), (\frac{7}{2} - \frac{1}{2}\sqrt{85})$
- (v) $(\frac{9}{2} + \frac{1}{2}\sqrt{113}), (\frac{9}{2} - \frac{1}{2}\sqrt{113}), (\frac{9}{2} + \frac{1}{2}\sqrt{85}), (\frac{9}{2} - \frac{1}{2}\sqrt{85})$

4. Solve : $(x^4-9x^2+14)=0$

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

5. Solve : $(x+8)(x+9)(x+10)(x+11)=1680$

- (i) (-3),(-16) (ii) (-6),(-18) (iii) 0,(-13) (iv) (-2),(-15) (v) (-4),(-17)

6. Solve the quadratic equation $x + 8 = -\frac{15}{x}$

- (i) (-1,-8) (ii) (-3,-5) (iii) (-2,-5) (iv) (-2,-6) (v) (-1,-6)

For what values of k are the roots of

7. $(k-9)x^2 + (k+16)x + (k-9)=0$ equal

- (i) $(\frac{4}{3}, 32)$ (ii) $(\frac{2}{3}, 34)$ (iii) $(\frac{2}{5}, 34)$ (iv) $(\frac{2}{5}, 33)$ (v) $(\frac{4}{3}, 33)$

If p and q are the roots of $(x^2 + 5x - 36) = 0$,

8. find the equation whose roots are $p + \frac{1}{q}$ and $q + \frac{1}{p}$

(i) $(36x^2 + 175x - 1225) = 0$ (ii) $(18x^2 + 83x - 595) = 0$ (iii) $(36x^2 + 157x - 1155) = 0$
(iv) $(12x^2 + 61x - 385) = 0$ (v) $(28x^2 + 129x - 1015) = 0$

9. If -2 is the root of $(x^2 + kx + 12) = 0$, find k and the other root

(i) $k = 11$, and the other root = -4 (ii) $k = 6$, and the other root = -9 (iii) $k = 7$, and the other root = -7
(iv) $k = 8$, and the other root = -6 (v) $k = 9$, and the other root = -5

10. Find the quadratic equation whose roots are $(4 - 9\sqrt{7})$ and $(4 + 9\sqrt{7})$

(i) $(2x^2 - 8x - 551) = 0$ (ii) $(-8x - 551) = 0$ (iii) $(x^2 - 6x - 551) = 0$ (iv) $(x^2 - 8x - 551) = 0$
(v) $(x^2 - 10x - 551) = 0$

11. If $ax^2 + bx + c$ is exactly divisible by $(x + 9)$, $(x - 6)$

and leaves a remainder of -14 when divided by $(x - 5)$, find a , b and c

(i) $a = 1, b = 4, c = -53$ (ii) $a = 1, b = 2, c = -55$ (iii) $a = 1, b = 3, c = -54$ (iv) $a = 1, b = 6, c = -52$
(v) $a = 1, b = 0, c = -57$

12. Find a and b in order that $(x^3 - 2x^2) + (ax + b)$

may be exactly divisible by $(x^2 + 2x - 48)$

(i) $a = -56, b = 192$ (ii) $a = -58, b = 189$ (iii) $a = -57, b = 191$ (iv) $a = -53, b = 195$ (v) $a = -55, b = 193$

Assignment Key

1) (ii)

2) (i)

3) (v)

4) (iv)

5) (i)

6) (ii)

7) (ii)

8) (i)

9) (iv)

10) (iv)

11) (iii)

12) (i)