



1. Solve :  $\frac{(x+8)}{(x-7)} = \frac{(2x+9)}{(x-3)}$

- (i) (-1,16) (ii) (3,-13) (iii) (-4,12) (iv) (-3,13) (v) (-5,10)

2. Solve :  $\frac{(x+6)}{(x-4)} + \frac{(x-2)}{(x+4)} = \frac{158}{33}$

- (i)  $((-\frac{128}{23}), 7)$  (ii)  $((-\frac{130}{23}), 4)$  (iii)  $((-\frac{138}{25}), 8)$  (iv)  $((-\frac{126}{23}), 9)$  (v)  $((-\frac{118}{21}), 6)$

3. Solve :  $(x^2-8x)^2 - 14(x^2-8x) + 45 = 0$

- (i)  $7, (-3), (2+\sqrt{21}), (2-\sqrt{21})$  (ii)  $9, (-1), (4+\sqrt{21}), (4-\sqrt{21})$  (iii)  $11, 1, (7+\sqrt{21}), (6-\sqrt{21})$  (iv)  $10, 0, (4+\sqrt{21}), (4-\sqrt{21})$  (v)  $8, (-2), (4+21), (4-21)$

4. Solve :  $(x^4-9x^2+8)=0$

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

5. Solve :  $(x+9)(x+10)(x+11)(x+12)=17160$

- (i)  $0, (-23)$  (ii)  $3, (-20)$  (iii)  $2, (-21)$  (iv)  $1, (-22)$  (v)  $(-2), (-25)$

6. Solve the quadratic equation  $x + \frac{72}{x} = 17$

- (i) (11,7) (ii) (11,5) (iii) (10,8) (iv) (9,8) (v) (10,7)

For what values of k are the roots of

7.  $(k-5)x^2 + (k+10)x + (k+2)=0$  equal

- (i)  $((-\frac{10}{3}), 14)$  (ii)  $((-\frac{8}{3}), 12)$  (iii)  $((-\frac{8}{3}), 13)$  (iv)  $((-\frac{16}{5}), 13)$  (v)  $((-\frac{16}{5}), 14)$

If  $p$  and  $q$  are the roots of  $(x^2 + 14x + 45) = 0$ ,

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

(i)  $(45x^2 + 634x + 2024) = 0$  (ii)  $(45x^2 + 644x + 2116) = 0$  (iii)  $(55x^2 + 786x + 2576) = 0$   
(iv)  $(45x^2 + 662x + 2208) = 0$  (v)  $(27x^2 + 390x + 1288) = 0$

9. If  $-7$  is the root of  $(x^2 + kx + 7) = 0$ , find  $k$  and the other root

(i)  $k = 9$ , and the other root  $= 0$  (ii)  $k = 5$ , and the other root  $= -3$  (iii)  $k = 7$ , and the other root  $= -2$   
(iv)  $k = 10$ , and the other root  $= 1$  (v)  $k = 8$ , and the other root  $= -1$

10. Find the quadratic equation whose roots are  $(5 + 6\sqrt{6})$  and  $(5 - 6\sqrt{6})$

(i)  $(x^2 - 8x - 191) = 0$  (ii)  $(-10x - 191) = 0$  (iii)  $(x^2 - 12x - 191) = 0$  (iv)  $(2x^2 - 10x - 191) = 0$   
(v)  $(x^2 - 10x - 191) = 0$

11. If  $ax^2 + bx + c$  is exactly divisible by  $(x + 3)$ ,  $(x + 5)$

and leaves a remainder of 3 when divided by  $(x + 6)$ , find  $a$ ,  $b$  and  $c$

(i)  $a = 1, b = 6, c = 13$  (ii)  $a = 1, b = 8, c = 15$  (iii)  $a = 1, b = 7, c = 14$  (iv)  $a = 1, b = 10, c = 18$   
(v)  $a = 1, b = 9, c = 16$

12. Find  $a$  and  $b$  in order that  $(x^3 + 6x^2) + (ax + b)$

may be exactly divisible by  $(x^2 + x - 42)$

(i)  $a = -36, b = -209$  (ii)  $a = -39, b = -212$  (iii)  $a = -34, b = -208$  (iv)  $a = -37, b = -210$  (v)  $a = -38, b = -211$

## Assignment Key

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1) (iv)

2) (i)

3) (ii)

4) (iv)

5) (iv)

6) (iv)

7) (i)

8) (ii)

9) (v)

10) (v)

11) (ii)

12) (iv)