FACTORISATION

1. Factorise :
   i. $6p + 8q$
   ii. $7xy + 18\ yz$
   iii. $28x^3 - 70x^2$
   iv. $20x^4y - 12x^3y^2 + 28x^2y^3$.

2. Factories : $x\ (a + b) + y\ (a + b)$.

3. Factories : $12(a - b)^3 + 18\ (a - b)^2$

4. Factories : $a^2 + bc + ab + ac$

5. Factories : $3mn + 2pn + 3mq + 2pq$.

6. Factories : $ax - ay - 3az + 2bx - 2by = 6bz$

7. Factories : $(ax + by)^2 + (bx - ay)^2$

8. Factories : $4x^4 + 12x^2 + 9$

9. Factories : $a^2 - 2 + \dfrac{1}{a^2}$

10. Factories : $16x^2 - 25y^2$

11. Evaluate :
    i. $73^2 - 27^2$
    ii. $\left(6\frac{3}{4}\right)^2 - \left(3\frac{1}{4}\right)^2$

12. Factories : $(x + y)^2 - (a - b)^2$

13. Factories : $16x^4 - y^4$

14. Factories: $32 - 2\ (x - y)2$

15. Factories: $4\ (a + b)^2 - 9(a - b)^2$

16. Factories : $48\ ax^2 - 75ay2$.

17. Factories : $x^2 - 10x + 25 - y^2$.

18. Factories : $x^2 - y^2 + ax + ay$

19. Factories: $25x^2 - 9a^2 + 6ay - y^2$

20. Factories : $a^2 + \dfrac{1}{a^2}$

21. Factories the following:
    i. $a(a-2) - b(b-2)$
    ii. $x2 - 2y + xy - 4$
    iii. $(1 - x^2)\ (1 - y^2) + 4xy$

22. Factories: $2\ (ab - cd) + a^2 + b^2 - c^2 - d^2$

23. Factories :
    i. $x^4 + 7x^4 + 16$
    ii. $a^4 + a^2\ b^2 + b^4$

24. Express $(x^2 + 6x - 7)\ (x^2 - 6x + 7)$ as difference of two squares

25. Factories : $x^2 + 5x + 6$

26. Factories the following:
    i. $X^2 + 9x + 20$
    ii. $X^2 - 7x + 12$

    iii. $x^2\,11x - 80$ iv. $m^2 + 17mn - 84n^2$

27. Factories :

    i. $(x + 5)\,(x - 10) + 14$

    ii. $25x^2 - (x^2 - 36)^2$

    iii. $(6 - x)^2\,-3x$

28. Factories :

    i. $3y^2 - 30y + 48$ ii. $(p + q)^2 + 2(p + q) - 3.$

29. Factories:

    i. $2x^2 + 9x - 5$

    ii. $12x^2 - x - 1$

    iii. $3 - 4x - 7x^2$

30. Factories : $2a^2b^2 + 5abc + 2c^2.$

31. Factories : $4x^3 - 17x^2y - 15xy^2$

32. Factories :

    i. $8(x - 2y)^2 + 2(x - 2y) - 15$

    ii. $3(x + 1)^2 - 10\,(x + 1)\,(y + 1) + 8\,(y + 1)^2.$

33. Factories:

    i. $8x^3 + 27y^3$

    ii. $Y^3 - \dfrac{1}{8z^3}$

    iii. $8\,(3x - 4y)^3 - 125\,(2x + y)^3$

34. Factories: $a6 - b6$

35. Factories: $a^3 + b^3 + a + b$

    i. $250xy^3 - 16x^4$

    ii. $8a^3 - b^3 + 12a^2b - 6ab^2$

    iii. $\left(a^3 + \dfrac{1}{a^3} + 2a\dfrac{1}{a}\right)$

36. Factories: $a^6 - 7a^3 + a - 8$