Mathematics

Board – ICSE	Class –VIII	Topic – Factorization

1. Find the common factors of the given terms
   a) $2x, 3x^2, 4$
   b) $33x^2y, -77xy^2$
   c) $2xyz^3, 3x^2y^2z, 5xyz$

2. Factories the following expressions
   a) $7a^2 + 14a$
   b) $-8x^2 - 24x$

3. Factorize by grouping
   a) $(x + 5)^2 - 4(x + 5)$
   b) $x^3(2a - b) + x^2(2a - b)$

4. Factorize by re- grouping
   a) $x^2 + xy + 8x + 8y$
   b) $6x^2 - 15xz - 8yx + 20yz$

5. Factorize by splitting middle term :
   a) $a^2 + 8a + 16$
   b) $6x^2 + 7x - 3$

6. Factorize the difference of two squares
   a) $4p^2 - 9q^2$
   b) $48a^2 - 243b^2$

7. Factorise the expressions : $6xy - 4y + 6 - 9x$

8. Factorise the following expressions by s: $p^2 + 6p - 16$

9. Factorize by using identities :
   a) $x^4 - (x - z)^4$
   b) $1 - 25(2a - 5b)^2$

10. Factorize: $25a^2 - 4b^2 + 28bc - 49c^2$

11. Factorize the perfect square completely:
    a) $4x^2 + 9y2 + 12xy$
    b) $x^2 + 6x + 8$

12. Factorize: $(l + m)^2 - (l - m)^2$

13. Factor trinomials using substitution:

Mathematics

SpeedLabs
Assisted Practice | Expert Guidance | Personalized Insights
An Innovative Learning Methodology by IITians.

a) $(x - 2y)^2 + 7(x - 2y) - 18$

b) $(7m - 1)2 + 12(7m - 1) - 45$

14. Find the values of by using suitable identities:

a) $(42)^2 - (28)^2$

b) $(9.2)^2 - (0.8)^2$

Answer

1. (a) 1   (b) $11xy$ (c) xyz

2. (a) $7a(a + 2)$ (b) $-8x(x + 3)$

3. (a) $(x^3 + x^2)(2a - b)$ (b) $(x + 5)(x + 1)$

4. (a) $(x + y)(x + 8)$ (b) $(3x - 4y)(2x - 5z)$

5. (a) $(a + 4)^2$ (b) $(2x + 3)(3x - 1)$

6. (a) $(2p + 3q)(2p - 3q)$ (b) 3(4a + 9b) (4a - 9b).

7. $(2y - 3)(3x - 2)$

8. $(p + 8)(p - 2)$

9. (a) $z(2x - z)(2x^2 - 2xz + z^2)$ (b) $(1 + 10a - 25b)(1 - 10a + 25b)$

10. (5a + 2b - 7c)(5a - 2b + 7c)

11. (a) $(2x + 3y)(2x + 3y)$ (b) $(x + 4)(x + 2)$

12. $4lm$

13. (a) $(x - 2y + 9)(x - 2y - 2)$ (b) $7(7m - 4)(m + 2)$

14. (a) 980   (b) 84