EduSahara™ Assignment

Name : Factorisation Using Identities

Chapter : Factorisation

Grade : SSC Grade VIII

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1. Factorize $(3x^2-12x-36)$

   (i) $(x-6)(3x+6)$ (ii) $(x-6)(2x+6)$ (iii) $(x-6)(x+6)$ (iv) $(x-6)(4x+6)$ (v) $(x-6)(6x+6)$

2. Factorize $(4a^2-8ab+4b^2)$

   (i) $(a-2b)(a-2b)$ (ii) $(3a-2b)(3a-2b)$ (iii) $(2a-5b)(2a-4b)$ (iv) $(2a+b)2a$ (v) $(2a-2b)(2a-2b)$

3. Factorize $(4a^2-12ab+9b^2)$

   (i) $(-3a+3b)(-3a+3b)$ (ii) $(-2a+3b)(-2a+3b)$ (iii) $(-2a+b)(-2a+b)$ (iv) $(-2a+5b)(-2a+6b)$

   (v) $(-a+3b)(-a+3b)$

4. Factorize (a^2-b^2)

   (i) $(-a-2b)(-a-4b)$ (ii) $(-a+4b)(-a+2b)$ (iii) $(-a+b)(-a-b)$ (iv) $b(-b)$ (v) $(-2a+b)(-2a-b)$

5. Factorize $(a^2+2ab-6ac+b^2-6bc+9c^2)$

   (i) $(-a+b+3c)(-a+2b+3c)$ (ii) $(-2a-b+3c)(-2a-b+3c)$ (iii) $(-a-b+3c)(-a-b+3c)$

   (iv) $(-b+3c)(-b+3c)$ (v) $(-a-4b+3c)(-a-4b+3c)$

6. Factorize $(5x+3y)^2 + 2(5x+3y)(2x+4y) + (2x+4y)^2$

   (i) $(3x-y)^2$ (ii) $(5x+3y)(2x+4y)$ (iii) $(8x+7y)^2$ (iv) $(-3x+2y)^2$ (v) $(7x+7y)^2$

7. Factorize $(2x+3y)^2 - 2(2x+3y)(7x+9y) + (7x+9y)^2$

   (i) $(2x+3y)(7x+9y)$ (ii) $(9x+12y)^2$ (iii) $(-5x-6y)^2$ (iv) $(-4x-6y)^2$ (v) $(6x+6y)^2$

8. Factorize $a^2b^2 - b^2c^2$

   (i) $(ab+bc)(ab+bc)$ (ii) $(ab-bc)(ab-bc)$ (iii) $(ac+bc)(ac-bc)$ (iv) $(ab+bc)(ac+bc)$

   (v) $(ab+bc)(ab-bc)$

9. Factorize $25a^3 - 36a$

   (i) $(5a+6)(5a-6)a$ (ii) $(5a^2+6)(6a-5)a$ (iii) $(5a+6)(5a^2+6)a$ (iv) $(5a-6)(5a^2+6)a$

   (v) $(5a+6)(6a-5)a$

10. Factorize (x^2-81)

    (i) $(x+9)(x+9)$ (ii) $(x+9)(x-9)$ (iii) $(x-9)(x-9)$ (iv) $(x+3)(x-27)$ (v) $(x-3)(x+27)$

11. Factorize $(4x^2-16)$

(i) $(2x-8)(2x+2)$ (ii) $(2x+4)(2x-4)$ (iii) $(2x+4)(2x+4)$ (iv) $(2x+8)(2x-2)$ (v) $(2x-4)(2x-4)$

12. Factorize $(9x^2-36y^2)$

(i) $(3x+6y)(3x+6y)$ (ii) $(3x+9y)(3x-4y)$ (iii) $(3x-9y)(3x+4y)$ (iv) $(3x+6y)(3x-6y)$

(v) $(3x-6y)(3x-6y)$

13. Factorize (k^4-256)

(i) $(k^2+16)(k^2-8)$ (ii) $(k+4)(k+4)(k-4)$ (iii) $(k+4)(k-4)(k^2-8)$ (iv) $(k+4)(k-4)(k-4)$

(v) $(k+4)(k-4)(k^2+16)$

14. Factorize $(a+b)^2 - c^2$

(i) $(a+b+c)(a+b-c)$ (ii) $(a+b-c)(a-b+c)$ (iii) $(a+b+c)(a-b-c)$ (iv) $(a+b-c)(a-b-c)$

(v) $(a+b+c)(a-b+c)$

15. Factorize $a^2c^2 - b^2c^2 - a^2d^2 + b^2d^2$

(i) $(a+b)(a-b)(b+d)(c-d)$ (ii) $(a+b)(a-c)(c+d)(c-d)$ (iii) $(a+b)(a-b)(c+d)(b-d)$

(iv) $(a+c)(a-c)(b+d)(b-d)$ (v) $(a+b)(a-b)(c+d)(c-d)$

16. Factorize (a^6-b^6)

(i) $(a-b)(a^2+ab+b^2)(a+b)(a^2+ab-b^2)$ (ii) $(a-b)(a^2+ab+b^2)(a+b)(a^2-ab+b^2)$

(iii) $(a-b)(a^2-ab+b^2)(a+b)(a^2-ab-b^2)$ (iv) $(a-b)(a^2+ab-b^2)(a+b)(a^2-ab+b^2)$

(v) $(a-b)(a^2+ab+b^2)(a+b)(a^2-ab-b^2)$

17. Factorize $(a-b)^3 + (b-c)^3 + (c-a)^3$

(i) $3(a-b)(b-c)(c+a)$ (ii) $3(a-b)(b-c)(c-a)$ (iii) $3(a-b)(b+c)(c+a)$ (iv) $3(a+b)(b-c)(c-a)$

(v) $3(a-b)(b+c)(c-a)$

18. Factorize $(3a-6b)^3 + (6b-6c)^3 + (6c-3a)^3$

(i) $3(3a+6b)(6b-6c)(6c-3a)$ (ii) $3(3a-6b)(6b+6c)(6c+3a)$ (iii) $3(3a-6b)(6b-6c)(6c-3a)$

(iv) $3(3a-6b)(6b+6c)(6c-3a)$ (v) $3(3a-6b)(6b-6c)(6c+3a)$

19. Factorize $(5a-6b)^3 - (2a-b)^3 - (3a-5b)^3$

(i) $3(2a+b)(3a+5b)(5a-6b)$ (ii) $3(2a+b)(3a-5b)(5a-6b)$ (iii) $3(2a-b)(3a+5b)(5a-6b)$

(iv) $3(2a+b)(3a+5b)(-a+4b)$ (v) $3(2a-b)(3a-5b)(5a-6b)$

20. Factorize $\left(ax+by\right)^2 - \left(ax-by\right)^2$

(i) $4axby$ (ii) $2(ax)^2(by)^2$ (iii) $4(ax)^2(by)^2$ (iv) $2axby$

Assignment Key

1) (i)	2) (v)	3) (ii)	4) (iii)	5) (iii)	6) (v)
7) (iii)	8) (v)	9) (i)	10) (ii)	11) (ii)	12) (iv)
13) (v)	14) (i)	15) (v)	16) (ii)	17) (ii)	18) (iii)
19) (v)	20) (i)				

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