



1. Factorize($2x^2 - 8$)

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

2. Factorize($4x^3 - 28x^2 + 55x - 21$)

- (i) $(2x-7)(-x-1)(-x-3)$ (ii) $(2x-7)(3x-1)(2x-3)$ (iii) $(2x-7)(5x-1)(4x-3)$
(iv) $(2x-7)(x-1)(-3)$ (v) $(2x-7)(2x-1)(x-3)$

3. Factorize($x^4 + 9x^3 - 7x^2 - 129x + 126$)

- (i) $(x-3)(-2x+7)(-x-1)(-2x+6)$ (ii) $(x-3)7(-1)6$ (iii) $(x-3)(x+7)(x-1)(x+6)$
(iv) $(x-3)(3x+7)(4x-1)(4x+6)$ (v) $(x-3)(2x+7)(2x-1)(2x+6)$

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

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

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

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

6. Factorize($a^2 - 16b^2$)

- (i) $(a-4b)(a+4b)$ (ii) $(-4b)4b$ (iii) $(2a-4b)(2a+4b)$ (iv) $(a-6b)(a+b)$ (v) $(a-2b)(a+6b)$

7. Factorize($x^2 + 2xa - 2x + a^2 - 2a - 48$)

- (i) $(x-a+6)(x+a+8)$ (ii) $(x+a+6)(x+a-8)$ (iii) $(x-a-8)(x+a-6)$ (iv) $(x+a-8)(x-a+6)$
(v) $(x+a+6)(x-a-8)$

8. Factorize($x^3 + 3x^2a + 3xa^2 - x + a^3 - a$)

- (i) $(x+a)(x+a-1)(x-a+1)$ (ii) $(x+a)(x-a-1)(x+a+1)$ (iii) $(x-a)(x-a-1)(x+a+1)$
(iv) $(x+a)(x+a-1)(x+a+1)$ (v) $(x-a)(x+a-1)(x-a+1)$

9. Factorize($24x^2 - 8xy - 10y^2$)

- (i) $(4x+2y)(4x-2y)$ (ii) $(4x+2y)(6x+5y)$ (iii) $(4x-2y)(6x-5y)$ (iv) $(4x+2y)(6x-5y)$
(v) $(4x-2y)(6x+5y)$

10. Factorize $(2x+9y)^2 + 2(2x+9y)(5x+3y) + (5x+3y)^2$

- (i) $(8x+12y)^2$ (ii) $(3x-5y)^2$ (iii) $(-3x+6y)^2$ (iv) $(2x+9y)(5x+3y)$ (v) $(7x+12y)^2$

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

- (i) $(-x-2y)^2$ (ii) $(3x+2y)^2$ (iii) $(5x+6y)(3x+4y)$ (iv) $(2x+2y)^2$ (v) $(8x+10y)^2$

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

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

13. Factorize $9a^3 - 64a$

- (i) $(3a+8)(3a^2+8)a$ (ii) $(3a^2+8)(8a-3)a$ (iii) $(3a+8)(8a-3)a$ (iv) $(3a-8)(3a^2+8)a$
(v) $(3a+8)(3a-8)a$

14. Factorize $(x^2 - 100)$

- (i) $(x-10)(x-10)$ (ii) $(x+25)(x-4)$ (iii) $(x-25)(x+4)$ (iv) $(x+10)(x+10)$ (v) $(x+10)(x-10)$

15. Factorize $(9x^2 - 81)$

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

16. Factorize $(25x^2 - 36y^2)$

- (i) $(5x-6y)(5x-6y)$ (ii) $(5x+6y)(5x-6y)$ (iii) $(5x+18y)(5x-2y)$ (iv) $(5x-18y)(5x+2y)$
(v) $(5x+6y)(5x+6y)$

17. Factorize $(-30x^3 - 103x^2y - 29xy^2 + 30y^3)$

- (i) $(-5x+2y)(x-3y)(6x-5y)$ (ii) $(-5x+2y)(x+3y)(6x+5y)$ (iii) $(-5x+2y)(x+3y)(6x-5y)$
(iv) $(-5x-2y)(x+3y)(6x-5y)$ (v) $(-5x-2y)(x+3y)(6x+5y)$

18. Factorize and divide $(144x^4 - 160x^2 + 16) \div (12x^2 + 16x + 4)$

- (i) $(10x^2 - 16x + 4)$ (ii) $(13x^2 - 16x + 4)$ (iii) $(11x^2 - 16x + 4)$ (iv) $(15x^2 - 16x + 4)$ (v) $(12x^2 - 16x + 4)$

19. Factorize and divide $(20x^4 - 89x^3 + 148x^2 - 109x + 30) \div (-x^2 + 2x - 1)$

- (i) $(-20x^2 - 49x - 30)$ (ii) $(5x^2 - 11x + 6)$ (iii) $(-20x^2 - x + 30)$ (iv) $(-20x^2 + 49x - 30)$
(v) $(-20x^2 + x + 30)$

20. Which of the following is a factor of $19x^4y^4z$?

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

21. Which of the following is not a factor of $30xy^5z^5$?

- (i) $6xy^5z^4$ (ii) $6y^5z^5$ (iii) $6yz^2$ (iv) $6xy^4z^5$ (v) $6x^2y^6z^5$

22. Which of the following is a factor of $(11x^3 + y^2z^2)$?

- (i) y^2z^2 (ii) $11y^2$ (iii) $11x^3z$ (iv) $11x^3$ (v) no factors

23. Which of the following is an irreducible factor of $32x^2y^4z^4$?

- (i) x^2y (ii) xz^3 (iii) y (iv) $x^2y^2z^3$ (v) y^2z

24. Which of the following is not an irreducible factor of $(x^2y + xy^2 + xy)$?

- (i) x (ii) $(x+y+1)$ (iii) y (iv) xy

25. Factorize $(x^2 + 11x + 18)$

- (i) $(x+2)(x+9)$ (ii) $(x+2)(x-9)$ (iii) $(x-2)(x+9)$ (iv) $(x-2)(x-9)$

26. 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) $(a+b+c)(a-b+c)$

27. Factorize $a^2 - b^2 - c^2 - 2bc$

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

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

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

29. 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) $(a-b)(a^2+ab-b^2)(a+b)(a^2-ab+b^2)$

30. 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) $3(a-b)(b-c)(c-a)$

31. Factorize $(3a-3b)^3 + (3b-5c)^3 + (5c-3a)^3$

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

32. Factorize $(8a-11b)^3 - (5a-5b)^3 - (3a-6b)^3$

- (i) $3(5a-5b)(3a+6b)(8a-11b)$ (ii) $3(5a+5b)(3a-6b)(8a-11b)$ (iii) $3(5a+5b)(3a+6b)(8a-11b)$
(iv) $3(5a+5b)(3a+6b)(2a+b)$ (v) $3(5a-5b)(3a-6b)(8a-11b)$

33. Factorize $(x^4 - 13x^2 + 36)$

- (i) $(x+2)(x-2)(x-3)(x-1)$ (ii) $(x+2)(x-2)(x-1)(x+1)$ (iii) $(x+2)(x-2)(x-3)(x+3)$
(iv) $(x+2)(x-2)(x-3)(x+1)$ (v) $(x+2)(x-2)(x+3)(x-1)$

34. Factorize $(16x^2 - 20xy - 6y^2)$

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

35. Factorize $(24xy + 18y^2)$

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

36. Factorize $(14a^2b + 8ab^2)$

- (i) $2ab(-7a-4b)$ (ii) $2b(7a-4b)$ (iii) $2a(7a+4b)$ (iv) $2ab(7a+4b)$ (v) $2ab(7a-4b)$

37. Factorize $(ax + by)^2 - (ax - by)^2$

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

Assignment Key

1) (v)	2) (v)	3) (iii)	4) (ii)	5) (ii)	6) (i)
7) (ii)	8) (iv)	9) (iv)	10) (v)	11) (iv)	12) (iv)
13) (v)	14) (v)	15) (iv)	16) (ii)	17) (ii)	18) (v)
19) (iv)	20) (i)	21) (v)	22) (v)	23) (iii)	24) (iv)
25) (i)	26) (i)	27) (i)	28) (iv)	29) (iv)	30) (v)
31) (i)	32) (v)	33) (iii)	34) (ii)	35) (i)	36) (iv)
37) (iv)					