



1. Factorize $(6x^2 + 9x - 27)$

- (i) $(2x-3)(4x+9)$ (ii) $(2x-3)(2x+9)$ (iii) $(2x-3)(3x+9)$ (iv) $(2x-3)(x+9)$ (v) $(2x-3)(5x+9)$

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

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

3. Factorize $(4a^2 + 16ab + 16b^2)$

- (i) $(-2a-7b)(-2a-6b)$ (ii) $(-3a-4b)(-3a-4b)$ (iii) $(-2a-4b)(-2a-4b)$ (iv) $(-2a-2b)(-2a-b)$
(v) $(-a-4b)(-a-4b)$

4. Factorize $(25a^2 - b^2)$

- (i) $(5a-b)(5a-3b)$ (ii) $(6a+b)(6a-b)$ (iii) $(4a+b)(4a-b)$ (iv) $(5a+b)(5a-b)$ (v) $(5a+3b)(5a+b)$

5. Factorize $(25a^2 + 40ab - 40ac + 16b^2 - 32bc + 16c^2)$

- (i) $(5a+4b-4c)(5a+4b-4c)$ (ii) $(6a+4b-4c)(6a+4b-4c)$ (iii) $(4a+4b-4c)(4a+4b-4c)$
(iv) $(5a+b-4c)(5a+b-4c)$ (v) $(5a+6b-4c)(5a+6b-4c)$

6. Factorize $(4x+5y)^2 + 2(4x+5y)(3x+8y) + (3x+8y)^2$

- (i) $(8x+13y)^2$ (ii) $(4x+5y)(3x+8y)$ (iii) $(-x+4y)^2$ (iv) $(7x+13y)^2$ (v) $(x-3y)^2$

7. Factorize $(3x+9y)^2 - 2(3x+9y)(5x+4y) + (5x+4y)^2$

- (i) $(-2x+5y)^2$ (ii) $(-x+5y)^2$ (iii) $(3x-5y)^2$ (iv) $(3x+9y)(5x+4y)$ (v) $(8x+13y)^2$

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

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

9. Factorize $4a^3 - 36a$

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

10. Factorize $(x^2 - 36)$

- (i) $(x+6)(x-6)$ (ii) $(x-6)(x-6)$ (iii) $(x-12)(x+3)$ (iv) $(x+6)(x+6)$ (v) $(x+12)(x-3)$

11. Factorize $(25x^2 - 36)$

- (i) $(5x+6)(5x-6)$ (ii) $(5x-6)(5x-6)$ (iii) $(5x-4)(5x+9)$ (iv) $(5x+4)(5x-9)$ (v) $(5x+6)(5x+6)$

12. Factorize $(36x^2 - 100y^2)$

- (i) $(6x-5y)(6x+20y)$ (ii) $(6x+10y)(6x+10y)$ (iii) $(6x+5y)(6x-20y)$ (iv) $(6x+10y)(6x-10y)$
(v) $(6x-10y)(6x-10y)$

13. Factorize $(i^4 - 1296)$

- (i) $(i+6)(i+6)(i-6)$ (ii) $(i^2+36)(i^2-12)$ (iii) $(i+6)(i-6)(i-6)$ (iv) $(i+6)(i-6)(i^2-12)$
(v) $(i+6)(i-6)(i^2+36)$

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

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 $(6a-2b)^3 + (2b-6c)^3 + (6c-6a)^3$

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

19. Factorize $(5a-11b)^3 - (a-6b)^3 - (4a-5b)^3$

- (i) $3(a-6b)(4a+5b)(5a-11b)$ (ii) $3(a+6b)(4a+5b)(-3a-b)$ (iii) $3(a+6b)(4a+5b)(5a-11b)$
(iv) $3(a-6b)(4a-5b)(5a-11b)$ (v) $3(a+6b)(4a-5b)(5a-11b)$

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

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

Assignment Key

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