



1. Factorize $(25a^2 - 50ab + 25b^2)$

- (i) $(-5a+7b)(-5a+8b)$ (ii) $(-5a+2b)(-5a+2b)$ (iii) $(-6a+5b)(-6a+5b)$ (iv) $(-4a+5b)(-4a+5b)$
(v) $(-5a+5b)(-5a+5b)$

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

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

3. Factorize $(9a^2 - 16b^2)$

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

4. Factorize $(64a^3 - 144a^2b + 108ab^2 - 27b^3)$

- (i) $4a4a4a$ (ii) $(4a-3b)(4a-3b)(4a-3b)$ (iii) $(5a-3b)(5a-3b)(5a-3b)$
(iv) $(4a-6b)(4a-6b)(4a-6b)$ (v) $(3a-3b)(3a-3b)(3a-3b)$

5. Factorize $(-125a^3 - 75a^2b - 15ab^2 - b^3)$

- (i) $(-5a+2b)(-5a+2b)(-5a+2b)$ (ii) $(-6a-b)(-6a-b)(-6a-b)$ (iii) $(-5a-4b)(-5a-4b)(-5a-4b)$
(iv) $(-5a-b)(-5a-b)(-5a-b)$ (v) $(-4a-b)(-4a-b)(-4a-b)$

6. Factorize $(4a^2 + 4ab - 20ac + b^2 - 10bc + 25c^2)$

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

7. Factorize $(-64a^3 - 27b^3)$

- (i) $(-4a-b)(16a^2 - 10ab + 9b^2)$ (ii) $(-4a-5b)(16a^2 - 15ab + 9b^2)$ (iii) $(-5a-3b)(15a^2 - 12ab + 9b^2)$
(iv) $(-4a-3b)(16a^2 - 12ab + 9b^2)$ (v) $(-3a-3b)(17a^2 - 12ab + 9b^2)$

8. Factorize $(-125a^3 + 125b^3)$

- (i) $(-6a+5b)(24a^2 + 25ab + 25b^2)$ (ii) $(-5a+7b)(25a^2 + 28ab + 25b^2)$
(iii) $(-5a+5b)(25a^2 + 25ab + 25b^2)$ (iv) $(-4a+5b)(26a^2 + 25ab + 25b^2)$
(v) $(-5a+2b)(25a^2 + 22ab + 25b^2)$

9. Factorize $(-125a^3 + 45abc + 27b^3 + c^3)$

(i) $(-5a + 3b + c)(25a^2 + 15ab + 5ac + 9b^2 - 3bc + c^2)$ (ii) $(-6a + 3b + c)(24a^2 + 15ab + 5ac + 9b^2 - 3bc + c^2)$

(iii) $(-4a + 3b + c)(26a^2 + 15ab + 5ac + 9b^2 - 3bc + c^2)$ (iv) $(-5a + b + c)(25a^2 + 12ab + 5ac + 9b^2 - 3bc + c^2)$

(v) $(-5a + 5b + c)(25a^2 + 17ab + 5ac + 9b^2 - 3bc + c^2)$

10. Evaluate : $985^2 - 15^2$

(i) 970000 (ii) 9700000 (iii) 970015 (iv) 97000 (v) 970985

11. Factorize $(9x+8y)^2 + 2(9x+8y)(4x+2y) + (4x+2y)^2$

(i) $(5x+6y)^2$ (ii) $(9x+8y)(4x+2y)$ (iii) $(-5x-5y)^2$ (iv) $(14x+10y)^2$ (v) $(13x+10y)^2$

12. Factorize $(5x+7y)^2 - 2(5x+7y)(3x+6y) + (3x+6y)^2$

(i) $(3x+y)^2$ (ii) $(-x-y)^2$ (iii) $(2x+y)^2$ (iv) $(5x+7y)(3x+6y)$ (v) $(8x+13y)^2$

13. 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) $(ab-bc)(ab-bc)$

14. Factorize $81a^3 - 36a$

(i) $(9a+6)(9a-6)a$ (ii) $(9a+6)(9a^2+6)a$ (iii) $(9a+6)(6a-9)a$ (iv) $(9a-6)(9a^2+6)a$

(v) $(9a^2+6)(6a-9)a$

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

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

16. Factorize $(100x^2 - 36)$

(i) $(10x+6)(10x+6)$ (ii) $(10x+18)(10x-2)$ (iii) $(10x-6)(10x-6)$ (iv) $(10x+6)(10x-6)$

(v) $(10x-18)(10x+2)$

17. Factorize $(9x^2 - 81y^2)$

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

(v) $(3x-3y)(3x+27y)$

18. Find 404^3

(i) 65939274 (ii) 65939264 (iii) 65939244 (iv) 65939284 (v) 65939254

19. Find 398^3

(i) 63044772 (ii) 63044792 (iii) 63044782 (iv) 63044802 (v) 63044812

20. Find the value of $45^3 + 60^3 - 105^3$

- (i) 1728000 (ii) (-729000) (iii) (-1728000) (iv) (-850500) (v) 729000

21. Find the value of $3^3 + 9.2^3 - 12.2^3$

- (i) 216 (ii) -216 (iii) -1010.16 (iv) -6229.504 (v) 6229.504

22. Factorize $(m^4 - 256)$

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

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

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

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

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

26. 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) $3(a-b)(b-c)(c-a)$

27. 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) $3(3a-3b)(3b-5c)(5c+3a)$

28. Factorize $(10a-3b)^3 - (6a-b)^3 - (4a-2b)^3$

- (i) $3(6a+b)(4a+2b)(10a-3b)$ (ii) $3(6a-b)(4a+2b)(10a-3b)$ (iii) $3(6a-b)(4a-2b)(10a-3b)$
(iv) $3(6a+b)(4a-2b)(10a-3b)$ (v) $3(6a+b)(4a+2b)(2a+b)$

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

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

Assignment Key

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