



1. Factorize  $(3x^2 + 19x + 6)$

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

2. Factorize  $(x^3 - 6x^2 - 24x + 64)$

- (i)  $(x-2)(2x+4)(2x-8)$  (ii)  $(x-2)(-2x+4)(-2x-8)$  (iii)  $(x-2)4(-8)$  (iv)  $(x-2)(3x+4)(3x-8)$   
(v)  $(x-2)(x+4)(x-8)$

3. Factorize  $(x^4 - 4x^3 - 39x^2 + 86x + 280)$

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

4. Factorize  $(48x^2 + 16xy - 64y^2)$

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

5. Factorize  $(4x+8y)^2 + 2(4x+8y)(9x+6y) + (9x+6y)^2$

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

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

- (i)  $(4x+5y)(2x+8y)$  (ii)  $(3x-3y)^2$  (iii)  $(2x-3y)^2$  (iv)  $(-x+3y)^2$  (v)  $(6x+13y)^2$

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

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

8. Factorize  $81a^3 - 49a$

- (i)  $(9a+7)(9a-7)a$  (ii)  $(9a+7)(9a^2+7)a$  (iii)  $(9a+7)(7a-9)a$  (iv)  $(9a-7)(9a^2+7)a$   
(v)  $(9a^2+7)(7a-9)a$

9. Factorize  $(x^2 - 64)$

- (i)  $(x-16)(x+4)$  (ii)  $(x+8)(x-8)$  (iii)  $(x+8)(x+8)$  (iv)  $(x-8)(x-8)$  (v)  $(x+16)(x-4)$

10. Factorize  $(49x^2 - 81)$

- (i)  $(7x-3)(7x+27)$  (ii)  $(7x+9)(7x+9)$  (iii)  $(7x-9)(7x-9)$  (iv)  $(7x+9)(7x-9)$  (v)  $(7x+3)(7x-27)$

11. Factorize  $(121x^2 - 36y^2)$

- (i)  $(11x-3y)(11x+12y)$  (ii)  $(11x+6y)(11x+6y)$  (iii)  $(11x+3y)(11x-12y)$  (iv)  $(11x-6y)(11x-6y)$   
(v)  $(11x+6y)(11x-6y)$

12. Factorize  $(120x^3 + 46x^2y - 60xy^2 - 16y^3)$

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

13. Factorize and divide  $(144x^4 - 580x^2 + 576) \div (12x^2 + 2x - 24)$

- (i)  $(13x^2 - 2x - 24)$  (ii)  $(12x^2 - 2x - 24)$  (iii)  $(9x^2 - 2x - 24)$  (iv)  $(11x^2 - 2x - 24)$  (v)  $(15x^2 - 2x - 24)$

14. Factorize and divide  $(-6x^4 + x^3 + 192x^2 - 205x - 150) \div (-x^2 - x + 30)$

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

15. Which of the following are possible values for the length and breadth of a rectangle whose area is  $(36x^2 - 16)$

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

16. Factorize  $(x^2 + 7x + 6)$

- (i)  $(x+1)(x-6)$  (ii)  $(x+1)(x+6)$  (iii)  $(x-1)(x+6)$  (iv)  $(x-1)(x-6)$

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  $(2a-b)^3 + (b-4c)^3 + (4c-2a)^3$

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

19. Factorize  $(11a-9b)^3 - (5a-5b)^3 - (6a-4b)^3$

- (i)  $3(5a-5b)(6a+4b)(11a-9b)$  (ii)  $3(5a+5b)(6a+4b)(11a-9b)$  (iii)  $3(5a-5b)(6a-4b)(11a-9b)$   
(iv)  $3(5a+5b)(6a+4b)(-a-b)$  (v)  $3(5a+5b)(6a-4b)(11a-9b)$

20. Factorize  $(6x^2 + 8xy - 8y^2)$

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

21. Factorize  $(28xy + 21y^2)$

- (i)  $7y(4x-3y)$  (ii)  $7y(-4x-3y)$  (iii)  $7y(4x+3y)$  (iv)  $7x(4x+3y)$  (v)  $7x(4x-3y)$

22. Factorize  $(6a^2b + 24ab^2)$

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

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

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

## Assignment Key

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