



1. Factorize $(6x^2 + 4x - 10)$

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

2. Factorize $(2x^3 - 18x^2 + 12x + 32)$

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

3. Factorize $(x^4 - 21x^3 + 139x^2 - 231x - 392)$

- (i)
- $(x+1)(-7)(-8)$
- (ii)
- $(x+1)(-2x-7)(-2x-7)(-x-8)$
- (iii)
- $(x+1)(4x-7)(4x-7)(3x-8)$
-
- (iv)
- $(x+1)(x-7)(x-7)(x-8)$
- (v)
- $(x+1)(2x-7)(2x-7)(2x-8)$

4. Factorize $(24x^2 + 44xy - 28y^2)$

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

5. Factorize $(4x+8y)^2 + 2(4x+8y)(7x+9y) + (7x+9y)^2$

- (i)
- $(3x+2y)^2$
- (ii)
- $(-3x-y)^2$
- (iii)
- $(12x+17y)^2$
- (iv)
- $(4x+8y)(7x+9y)$
- (v)
- $(11x+17y)^2$

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

- (i)
- $(-6x+2y)^2$
- (ii)
- $(10x+8y)^2$
- (iii)
- $(7x-2y)^2$
- (iv)
- $(-5x+2y)^2$
- (v)
- $(2x+5y)(8x+3y)$

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 $9a^3 - 64a$

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

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

- (i)
- $(x-2)(x+32)$
- (ii)
- $(x+2)(x-32)$
- (iii)
- $(x+8)(x+8)$
- (iv)
- $(x+8)(x-8)$
- (v)
- $(x-8)(x-8)$

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

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

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

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

12. Factorize $(-20x^3 - 90x^2y - 100xy^2 - 30y^3)$

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

13. Factorize and divide $(16x^4 - 281x^2 + 400) \div (4x^2 - 11x - 20)$

- (i) $(x^2 + 11x - 20)$ (ii) $(3x^2 + 11x - 20)$ (iii) $(4x^2 + 11x - 20)$ (iv) $(6x^2 + 11x - 20)$ (v) $(5x^2 + 11x - 20)$

14. Factorize and divide $(16x^4 + 108x^3 + 48x^2 - 164x - 120) \div (-x^2 - 7x - 6)$

- (i) $(-16x^2 - 36x - 20)$ (ii) $(-16x^2 + 36x - 20)$ (iii) $(-16x^2 + 4x + 20)$ (iv) $(-16x^2 - 4x + 20)$
(v) $(4x^2 + 8x + 4)$

15. Which of the following are possible values for the length and breadth of a rectangle whose area is $(-3x^2 - 24x - 36)$

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

16. Factorize $(x^2 + 9x + 18)$

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

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 $(5a-5b)^3 + (5b-3c)^3 + (3c-5a)^3$

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

19. Factorize $(5a-4b)^3 - (2a-b)^3 - (3a-3b)^3$

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

20. Factorize $(5x^2 - 16xy - 16y^2)$

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

21. Factorize $(32xy + 24y^2)$

- (i) $4x(8x+6y)$ (ii) $4y(8x+6y)$ (iii) $4y(-8x-6y)$ (iv) $4x(8x-6y)$ (v) $4y(8x-6y)$
-

22. Factorize $(12a^2b + 14ab^2)$

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

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

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

Assignment Key

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

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