



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

(i)  $(-5a+5b)(25a^2+25ab+25b^2)$  (ii)  $(-5a+8b)(25a^2+27ab+25b^2)$

(iii)  $(-5a+2b)(25a^2+23ab+25b^2)$  (iv)  $(-6a+5b)(24a^2+25ab+25b^2)$

(v)  $(-4a+5b)(26a^2+25ab+25b^2)$

2. Factorize  $(-8a^3 - 27b^3)$

(i)  $(-2a-5b)(4a^2-8ab+9b^2)$  (ii)  $(-2a-3b)(4a^2-6ab+9b^2)$  (iii)  $(-2a)(4a^2-3ab+9b^2)$

(iv)  $(-3a-3b)(3a^2-6ab+9b^2)$  (v)  $(-a-3b)(5a^2-6ab+9b^2)$

3. Factorize  $(15x^2 + 24xy - 12y^2)$

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

(v)  $(3x-6y)(5x+2y)$

4. Find  $102^3$

(i) 1061228 (ii) 1061208 (iii) 1061218 (iv) 1061188 (v) 1061198

5. Find the H.C.F. of  $40x^3y^2z^2$  and  $152x^3y^3z^3$

(i)  $8x^4y^2z^2$  (ii)  $8x^3y^2z^4$  (iii)  $8x^3y^4z^2$  (iv)  $8x^3y^2z^2$  (v)  $760x^3y^3z^3$

6. Find the value of  $4.6^3 + 9.4^3 - 14^3$

(i) 6644.672 (ii) -1816.08 (iii) -6644.672 (iv) 778.688 (v) -778.688

7. Factorize  $(9a^2 - 25b^2)$

(i)  $(2a-5b)(2a+5b)$  (ii)  $(3a-3b)(3a+7b)$  (iii)  $(3a-8b)(3a+3b)$  (iv)  $(3a-5b)(3a+5b)$

(v)  $(4a-5b)(4a+5b)$

8. Which of the following gives the H.C.F of two or more polynomials?

(i) ( H.C.F. of numerical coefficients )  $\times$  ( Each common factor raised to the highest power )

(ii) ( Product of numerical coefficients )  $\times$  ( Each common factor raised to the lowest power )

(iii) ( H.C.F. of numerical coefficients )  $\times$  ( Each common factor raised to the lowest power )

(iv) ( Product of numerical coefficients )  $\times$  ( Each common factor raised to the highest power )

9. Factorize  $(h^4 - 256)$

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

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

11. Factorize  $(a^3 - 12a^2b + 48ab^2 - 64b^3)$

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

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

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

13. Find the H.C.F. of  $(x^2 + 11x + 28)$  and  $(x^2 + 16x + 63)$

- (i)  $(x+4)$  (ii)  $(x+9)$  (iii)  $(x+7)$  (iv)  $(2x+4)$  (v)  $(2x+7)$

14. Which of the following is not a factor of  $40x^3y^4z^4$  ?

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

15. Factorize  $(100x^2 - 64)$

- (i)  $(10x+8)(10x-8)$  (ii)  $(10x+4)(10x-16)$  (iii)  $(10x-8)(10x-8)$  (iv)  $(10x-4)(10x+16)$   
(v)  $(10x+8)(10x+8)$

16. Factorize  $4a^3 - 81a$

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

17. Which of the following is a factor of  $(x^5 + y^4z)$  ?

- (i)  $y^4z$  (ii)  $x^5$  (iii) no factors (iv)  $x^3z$  (v)  $y^4$

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

- (i)  $(-2x-2y)^2$  (ii)  $(16x+6y)^2$  (iii)  $(3x+2y)^2$  (iv)  $(7x+2y)(9x+4y)$  (v)  $(-x-2y)^2$

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

- (i)  $(-5x+2y)^2$  (ii)  $(5x-y)^2$  (iii)  $(7x+8y)(2x+9y)$  (iv)  $(10x+17y)^2$  (v)  $(9x+17y)^2$

20. Find the H.C.F. of  $36x^3y^3$  and  $60xy^3$

- (i)  $12xy^3$  (ii)  $12x^2y^3$  (iii)  $12x^4y^3$  (iv)  $12xy^5$  (v)  $180x^3y^3$

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

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

22. Factorize  $(-27a^3+144abc+64b^3+64c^3)$

- (i)  $(-3a+7b+4c)(9a^2+15ab+12ac+16b^2-16bc+16c^2)$   
(ii)  $(-3a+4b+4c)(9a^2+12ab+12ac+16b^2-16bc+16c^2)$   
(iii)  $(-2a+4b+4c)(10a^2+12ab+12ac+16b^2-16bc+16c^2)$   
(iv)  $(-3a+b+4c)(9a^2+9ab+12ac+16b^2-16bc+16c^2)$   
(v)  $(-4a+4b+4c)(8a^2+12ab+12ac+16b^2-16bc+16c^2)$

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

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

24. Which of the following is a factor of  $8x^4yz^3$  ?

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

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

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

## Assignment Key

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