

EduSahara™ Learning Center Assignment**Grade : Class VIII, SSC****Chapter : Factorisation****Name : Factorisation Using Identities****Licensed To : Teachers and Students for non-commercial use**

1. Factorize ($3x^2 - 21x + 30$)

(i) ($x - 5$) (-6)

(ii) ($x - 5$) ($4x - 6$)

(iii) ($x - 5$) ($2x - 6$)

(iv) ($x - 5$) ($5x - 6$)

(v) ($x - 5$) ($3x - 6$)

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

(i) ($a - 5b$) ($a - 4b$)

(ii) ($a + b$) ($a + b$)

(iii) ($-2b$) ($-2b$)

(iv) ($2a - 2b$) ($2a - 2b$)

(v) ($a - 2b$) ($a - 2b$)

3. Factorize ($16a^2 - 40ab + 25b^2$)

(i) ($-3a + 5b$) ($-3a + 5b$)

(ii) ($-4a + 7b$) ($-4a + 8b$)

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

(iv) ($-4a + 3b$) ($-4a + 2b$)

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

4. Factorize ($a^2 - 9b^2$)

(i) $(-3b) 3b$

(ii) $(a - b) (a + 6b)$

(iii) $(a - 6b) (a + b)$

(iv) $(2a - 3b) (2a + 3b)$

(v) $(a - 3b) (a + 3b)$

5. Factorize ($25a^2 - 20ab + 50ac + 4b^2 - 20bc + 25c^2$)

(i) $(5a - 2b + 5c) (5a - 2b + 5c)$

(ii) $(5a + 5c) (5a + 5c)$

(iii) $(6a - 2b + 5c) (6a - 2b + 5c)$

(iv) $(4a - 2b + 5c) (4a - 2b + 5c)$

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

6. Factorize $(5x+6y)^2 + 2(5x+6y)(9x+7y) + (9x+7y)^2$

(i) $(5x+6y)(9x+7y)$

(ii) $(14x+13y)^2$

(iii) $(4x+2y)^2$

(iv) $(15x+13y)^2$

(v) $(-4x-y)^2$

7. Factorize $(9x+3y)^2 - 2(9x+3y)(4x+6y) + (4x+6y)^2$

(i) $(13x+9y)^2$

(ii) $(5x-3y)^2$

(iii) $(6x-3y)^2$

$$(iv) (9x+3y)(4x+6y)$$

$$(v) (-4x+3y)^2$$

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

$$(i) (ab + bc)(ac + bc)$$

$$(ii) (ab + bc)(ab - bc)$$

$$(iii) (ab + bc)(ab + bc)$$

$$(iv) (ac + bc)(ac - bc)$$

$$(v) (ab - bc)(ab - bc)$$

9. Factorize $4a^3 - 25a$

$$(i) (2a^2 + 5)(5a - 2)a$$

$$(ii) (2a + 5)(5a - 2)a$$

$$(iii) (2a + 5)(2a - 5)a$$

$$(iv) (2a - 5)(2a^2 + 5)a$$

$$(v) (2a + 5)(2a^2 + 5)a$$

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

$$(i) (x - 27)(x + 3)$$

$$(ii) (x + 9)(x - 9)$$

$$(iii) (x + 27)(x - 3)$$

$$(iv) (x + 9)(x + 9)$$

$$(v) (x - 9)(x - 9)$$

11. Factorize $(121x^2 - 81)$

$$(i) (11x - 9)(11x - 9)$$

$$(ii) (11x + 9)(11x + 9)$$

$$(iii) (11x - 27)(11x + 3)$$

$$(iv) (11x + 9)(11x - 9)$$

$$(v) (11x + 27)(11x - 3)$$

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

$$(i) (6x - 2y)(6x + 50y)$$

$$(ii) (6x + 2y)(6x - 50y)$$

$$(iii) (6x + 10y)(6x + 10y)$$

$$(iv) (6x - 10y)(6x - 10y)$$

$$(v) (6x + 10y)(6x - 10y)$$

13. Factorize $(q^4 - 4096)$

$$(i) (q + 8)(q + 8)(q - 8)$$

$$(ii) (q + 8)(q - 8)(q - 8)$$

$$(iii) (q + 8)(q - 8)(q^2 - 16)$$

$$(iv) (q + 8)(q - 8)(q^2 + 64)$$

$$(v) (q^2 + 64)(q^2 - 16)$$

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 $a^2c^2 - b^2c^2 - a^2d^2 + b^2d^2$

$$(i) (a + b)(a - c)(c + d)(c - d)$$

$$(ii) (a + b)(a - b)(b + d)(c - d)$$

$$(iii) (a + b)(a - b)(c + d)(c - d)$$

$$(iv) (a + b)(a - b)(c + d)(b - d)$$

$$(v) (a + c)(a - c)(b + d)(b - d)$$

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 $(2a-6b)^3 + (6b-4c)^3 + (4c-2a)^3$

$$(i) 3(2a - 6b)(6b - 4c)(4c - 2a)$$

$$(ii) 3(2a - 6b)(6b + 4c)(4c - 2a)$$

$$(iii) 3(2a - 6b)(6b + 4c)(4c + 2a)$$

$$(iv) 3(2a - 6b)(6b - 4c)(4c + 2a)$$

$$(v) 3(2a + 6b)(6b - 4c)(4c - 2a)$$

19. Factorize $(7a-5b)^3 - (6a-2b)^3 - (a-3b)^3$

$$(i) 3(6a + 2b)(a + 3b)(5a + b)$$

$$(ii) 3(6a + 2b)(a + 3b)(7a - 5b)$$

$$(iii) 3(6a - 2b)(a + 3b)(7a - 5b)$$

$$(iv) 3 (6a + 2b) (a - 3b) (7a - 5b)$$

$$(v) 3 (6a - 2b) (a - 3b) (7a - 5b)$$

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

$$(i) 4 (ax)^2 (by)^2$$

$$(ii) 2 (ax)^2 (by)^2$$

$$(iii) 4axby$$

$$(iv) 2axby$$

Assignment Key

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