

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

1. Factorize ($9a^2 + 18ab + 9b^2$)

(i) $3a \ 3a$

(ii) $(3a + 3b)(3a + 3b)$

(iii) $(2a + 3b)(2a + 3b)$

(iv) $(3a + 6b)(3a + 5b)$

(v) $(4a + 3b)(4a + 3b)$

2. Factorize ($9a^2 - 30ab + 25b^2$)

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

(ii) $(3a - 8b)(3a - 7b)$

(iii) $(3a - 5b)(3a - 5b)$

(iv) $(2a - 5b)(2a - 5b)$

(v) $(3a - 2b)(3a - 2b)$

3. Factorize ($25a^2 - b^2$)

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

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

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

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

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

4. Factorize ($4a^2 - 8ab + 12ac + 4b^2 - 12bc + 9c^2$)

- (i) $(-2a - b - 3c)(-2a - b - 3c)$
 - (ii) $(-3a + 2b - 3c)(-3a + 2b - 3c)$
 - (iii) $(-2a + 4b - 3c)(-2a + 5b - 3c)$
 - (iv) $(-a + 2b - 3c)(-a + 2b - 3c)$
 - (v) $(-2a + 2b - 3c)(-2a + 2b - 3c)$
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5. Find the number of numbers between 3^2 and 4^2

- (i) 5 (ii) 6 (iii) 7 (iv) 8 (v) 3
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6. Factorize $(5x+9y)^2 + 2(5x+9y)(4x+7y) + (4x+7y)^2$

- (i) $(5x+9y)(4x+7y)$
 - (ii) $(-x-y)^2$
 - (iii) $(9x+16y)^2$
 - (iv) $(x+2y)^2$
 - (v) $(10x+16y)^2$
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7. Factorize $(3x+8y)^2 - 2(3x+8y)(9x+7y) + (9x+7y)^2$

- (i) $(-5x+y)^2$
 - (ii) $(-6x+y)^2$
 - (iii) $(7x-y)^2$
 - (iv) $(3x+8y)(9x+7y)$
 - (v) $(12x+15y)^2$
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8. Factorize $a^2b^2 - b^2c^2$

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

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

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

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

$$(i) (x - 18) (x + 2)$$

$$(ii) (x + 6) (x - 6)$$

$$(iii) (x + 18) (x - 2)$$

$$(iv) (x + 6) (x + 6)$$

$$(v) (x - 6) (x - 6)$$

10. Factorize $(100x^2 - 100)$

$$(i) (10x + 25) (10x - 4)$$

$$(ii) (10x + 10) (10x - 10)$$

$$(iii) (10x + 10) (10x + 10)$$

$$(iv) (10x - 25) (10x + 4)$$

$$(v) (10x - 10) (10x - 10)$$

11. Factorize $(36x^2 - 81y^2)$

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

$$(ii) (6x - 3y) (6x + 27y)$$

$$(iii) (6x - 9y) (6x - 9y)$$

$$(iv) (6x + 3y) (6x - 27y)$$

$$(v) (6x + 9y) (6x - 9y)$$

12. Factorize $(k^4 - 1296)$

(i) $(k + 6)(k - 6)(k^2 + 36)$

(ii) $(k + 6)(k - 6)(k^2 - 12)$

(iii) $(k + 6)(k - 6)(k - 6)$

(iv) $(k^2 + 36)(k^2 - 12)$

(v) $(k + 6)(k + 6)(k - 6)$

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

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

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

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

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

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

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

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

(i) $4axby$

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

$$(iii) \ 4 (ax)^2 (by)^2$$

$$(iv) \ 2axby$$

Assignment Key

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