



The National  
Orthodox School  
Shmaisani

Name:

Worksheet(5)

Grade:8(A, B)

Subject: Factorising using Difference of two squares

Date :

## Difference of Two Squares

**Difference of two squares** is a type of quadratic factorisation used when an algebraic expression is made up of a squared term subtracted from another squared term.

To factorise expressions in the form  $a^2 - b^2$  we need **double brackets**.

$$a^2 - b^2 = (a + b)(a - b)$$

Factorising

Expanding brackets



## Factor Difference of Perfect Squares

$$a^2 - b^2 = (a + b)(a - b)$$

*Examples:*

$$\begin{aligned} 16x^2 - 25 \\ &= (4x)^2 - 5^2 \\ &= (4x + 5)(4x - 5) \end{aligned}$$

$$\begin{aligned} 3x^2 - 75y^2 \\ &= 3(x^2 - 25y^2) \\ &= 3(x^2 - (5y)^2) \\ &= 3(x + 5y)(x - 5y) \end{aligned}$$

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**Exercise (1): factorise each of the following expressions completely:**

1  $u^2 - 64$

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2  $\frac{1}{9}x^2 - \frac{1}{25}$

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3  $36y^2 - 1$

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4  $v^4 - 625r^2$

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5  $a^2 - w^2z^2$

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6  $-16y^2 + 49$

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7  $ab^2 - 100a$

8  $x - x^3$

**Exercise (2): factorise each of the following expressions completely:**

1  $a^2 - 49$

2  $100 - w^2$

3  $9y^2 - 36$

4  $x^2y^2 - 64$

5  $r^2 - 0.36m^2$

6  $24c^2 - 6$

7  $5y^3m - 45ym^3$

8  $w^4 - k^4$

9  $-y^2 + 144x^2$

10  $\frac{1}{16}y^2 - \frac{4}{9}$

11  $xb^2 - x^3 + y^2b^2 - y^2x^2$

*Wisam Al - mashni*