The National Orthodox School Shmaisani

Name: **Worksheet(1)** **Grade:8(A, B)**

Subject : Multiplying algebraic expressions (special cases) **Date :**

Expand and Simplify each of the following :

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

Example :

1 $(3k+5)^2$

قانونُ مربعِ مجموعِ حدَّينِ $(a+b)^2 = a^2 + 2ab + b^2$

$a = 3k, b = 5$ $(3k+5)^2 = (3k)^2 + (2 \times 3k \times 5) + (5)^2$

أبسطُ $= 9k^2 + 30k + 25$

2 $(y^2+3)^2$

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3 $(2c+10)^2$

4 $(d^2+4)^2$

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

Example :

1 $(2h-z)^2$

$$(a-b)^2 = a^2 - 2ab + b^2$$ قانونُ مربعِ الفرقِ بَيْنَ حدَّينِ

$$(2h-z)^2 = (2h)^2 - (2 \times 2h \times z) + (z)^2$$ $a = 2h, b = z$

$$= 4h^2 - 4hz + z^2$$ أبسطُ

2 $(6-5y^3)^2$

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3 $(7t^2-1)^2$

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

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

Example :

1 $(2c+3)(2c-3)$

قانونُ ضربِ مجموعِ حدَّينِ في الفرقِ بينَهُما

أعوضُ $a = 2c,\ b = 3$

أبسطُ

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

$$(2c+3)(2c-3) = (2c)^2 - 3^2$$

$$= 4c^2 - 9$$

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2 $(4x^2 + d^5)(4x^2 - d^5)$

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3 $(6w + d^4)(6w - d^4)$

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4 $(x^3 + 3h^7)\,(x^3 - 3h^7)$

Wisam Al – mashni