

This book has permission to use the "N&K method of COLORS".

5) **Question:** Simplify $(3a^2b - 5b^2 - 7ab^2) - (4a^2b - 9ab^2 - 5b^2)$

- A) $5a^2b^2$ Changed
- B) $-a^2b + 2ab^2$
- C) $7a^2b + 16ab^2$
- D) $7a^2b + 16ab^2 + 10b^2$

For speed, while solving something similar, only THINK the words in blue; WRITE only the words in other COLORS.

Solution:

Given Simplify

$$(3a^2b - 5b^2 - 7ab^2) - (4a^2b - 9ab^2 - 5b^2)$$

Road Map of Solution:

First, apply PEMDAS

$$(3a^2b - 5b^2 - 7ab^2) \quad \color{red}{=} \quad (4a^2b - 9ab^2 - 5b^2)$$
$$(3a^2b - 5b^2 - 7ab^2) \quad \color{red}{=} \quad (+4a^2b - 9ab^2 - 5b^2)$$

When the **ve** sign outside a set of parentheses is multiplied to the contents of the parentheses, the following convention has to be followed:

- $-(+)$ becomes $-$
- $-(-)$ becomes $+$

Thus,

$$-(4a^2b) \text{ becomes } -4a^2b$$

$$-(-9ab^2) \text{ becomes } +9ab^2$$

$$-(-5b^2) \text{ becomes } +5b^2$$

$$= \quad \color{red}{3a^2b} \quad \color{red}{-5b^2} - 7ab^2 \quad \color{red}{-4a^2b} \quad + 9ab^2 \quad \color{red}{+5b^2}$$

$$= \quad \color{red}{-a^2b} \quad \color{red}{+0b^2} + 2ab^2$$

$= \quad \color{red}{-a^2b} \quad + 2ab^2 \dots\dots\dots \text{Answer (B)}$
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