

MARINA CUMATO Susana MACI2 Blect/Blact 19/02/2020

$$A = 3i + 4j - 6k$$

$$B = 5i - 11j + 2k$$

$$C = 7i - 7j + k$$

$$1) A \cdot C + B \cdot C = (3i + 4j - 6k) \cdot (7i - 7j + k) - (5i - 11j + 2k) \cdot (7i - 7j + k)$$
$$21i - 28j - 6k$$

$$B \cdot C = (5i - 11j + 2k) \cdot (7i - 7j + k)$$
$$= 35i + 77j + 2k$$

$$A \cdot C + B \cdot C$$

$$21i - 28j - 6k$$

$$+ 35i + 77j - 2k$$

$$56i + 49j - 4k$$

$$= A \cdot C + B \cdot C = 56i + 49j - 4k$$

$$2) (A - B) \cdot C = (8i + 4j - 6k) \cdot (7i - 7j + k)$$
$$= 8i + 4j - 6k - 5i - 11j + 2k$$
$$= 3i + 4j - 6k - 5i - 11j + 2k$$
$$= -2i + 15j - 8k$$

$$A - B \cdot C$$

$$= (2i + 15j - 8k) \cdot (7i - 7j + k)$$

$$= -14i - 105j - 8k$$

$$A \cdot (B \cdot C)$$

$$\begin{pmatrix} + & - & + \\ 1 & 5 & 2 \\ 5 & -11 & 2 \\ 7 & -7 & 1 \end{pmatrix}$$

$$B \cdot C = \begin{vmatrix} i & -11 & 2 \\ -7 & 1 & 1 \end{vmatrix} - j \begin{vmatrix} 5 & 2 \\ 7 & 1 \end{vmatrix} + k \begin{vmatrix} 5 & -11 \\ 7 & -7 \end{vmatrix}$$

$$i[-11+2] - j[5-14] + k[-35+77]$$

$$3i + 9j - 22k$$

$$A \cdot (B \cdot C)$$

$$(3i + 4j - 6k) \cdot (3i + 9j - 22k)$$

$$9i + 36j + 252k$$