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19/ENG04/052 N0032 Elect/Elect Engineering

MAT102

1 $A \cdot C + B \cdot C$

$$A = 3i + 4j - 6k \quad B = 5i - 11j + 2k \quad C = 7i - 7j + 1k$$

$$A \cdot C = 15 - 44 - 12$$

$$= -41$$

$$B \cdot C = 35 + 77 + 2$$

$$= 114$$

$$A \cdot C + B \cdot C = 73$$

2 $(A - B) \cdot C$

$$A - B = -2i + 15j - 8k$$

$$(A - B) \cdot C = -14 - 105 - 8$$

$$= -127$$

3 $A \cdot (B \times C)$

$$\begin{array}{ccc} 3 & 4 & -6 \\ 5 & -11 & 2 \\ 7 & -7 & 1 \end{array}$$

$$+1(-11+14) - 4(5-14) - 6(-35+77)$$

$$= ~~23+14~~ -9 + 36 - 256$$

$$= -279$$