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MAT 102

19/ENG02/066

COMPUTER ENGINEERING

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Computer Eng 19/066  
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MAT 102

1)  $A = 3i + 4j - 6k$ ,  $B = 5i - 11j + 2k$ ,  $C = 2i - 3j + k$

1)  $A + B + C$   
2)  $A \cdot B \cdot C$   
3)  $A(B \times C)$

1)  $A + B + C = (3i + 4j - 6k) + (5i - 11j + 2k) + (2i - 3j + k)$   
 $= 10i - 10j - 3k$   
 $A \cdot B \cdot C = 10i - 10j - 3k$

2)  $(A - B) \cdot C = (3i + 4j - 6k) - (5i - 11j + 2k) \cdot (2i - 3j + k)$   
 $= -2i + 15j - 8k \cdot (2i - 3j + k)$   
 $= -4i + 10j - 8k$   
 $(A - B) \cdot C = -4i + 10j - 8k$

3)  $A(B \times C)$

	i	-	j		k
B x C	1	-	1		2
	5	-	11		2
	7	-	-7		1

i	-11	2	-j	5	2	+k	5	-11
	-7	1		7	1		7	-7

1)  $(-11i) + (-5j - 11k) + k(-25 + 12)$   
 $3i - 19j + 2k$

$A(B \times C) = (3i - 19j + 2k) \cdot (5i - 11j + 2k)$   
 $= 15i^2 - 33ij + 6ik - 195j^2 + 209jk - 4k^2$   
 $= -26i + 11j$