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Computer Engineering 19/ENG02/051

MAT 102

$$1) A = (6u^2 + 8)i + (4u - 10)j + 8u^3k$$

$$B = 3ui + (2u - 5)j + 5k$$

$$(A \cdot B) = (6u^2 + 8)i + (4u - 10)j + 8u^3k \cdot [3ui + (2u - 5)j + 5k]$$

$$= [18u^3 + 24u + 8u^2 - 40u + 50 + 40u^3]$$

$$= 58u^3 + 8u^2 - 16u + 50$$

$$\frac{d}{du}(A \cdot B) = 174u^2 + 16u - 16$$

$$1) \frac{dA}{du} = \frac{d}{du}(6u^2 + 8) + \frac{d}{du}(4u - 10) + \frac{d}{du}(8u^3)$$

$$\frac{dA}{du} = 12ui + 4j + 24u^2k$$