UBEMADU DANIEL UGO (143) MECHANICAL ENGR

19/ENG06/057 MAT 102 15/09/2020

(i) $\underline{A} = (6u^2+8)i + (4u-10)j + 8u^2k$

$\underline{B} = (3ui + (2u-5)j + 5k$

(ii) $\underline{A}\cdot\underline{B} = 3u(6u^2+8) + (4u - 10)(2u-5) + 8u^2(+5)$

$= 18u^2 + 24 + 8u^2 - 20u + 50 + 40u^3$

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

$\frac{d(A\cdot B)}{du} = 174u^2 + 6u - 16$

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