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MAT 102 ASSIGNMENT

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MAT 102 Assignment

Serial No. 159

$$I. \quad \bar{A} = (6u^2 + 8)\mathbf{i} + (4u - 10)\mathbf{j} + 8u^2\mathbf{k}$$

$$\bar{B} = (3u)\mathbf{i} + (2u - 5)\mathbf{j} + 5\mathbf{k}$$

$$II. \quad \bar{A} \cdot \bar{B} = 3u(6u^2 + 8) + (4u - 10)(2u - 5) + 8u^2(5)$$
$$= 18u^3 + 24u + 8u^2 - 20u - 20u + 50 + 40u^2$$
$$= 18u^3 + 8u^2 - 16u + 50$$
$$\frac{d(\bar{A} \cdot \bar{B})}{du} = 174u^2 + 16u - 16$$

$$II \quad \frac{d\bar{A}}{du} = 12u\mathbf{i} + 4\mathbf{j} + 24u\mathbf{k}$$