

Problem 1.2

*Vector algebra 2**

Given two vectors $\mathbf{A} = (3\hat{\mathbf{i}} - 2\hat{\mathbf{j}} + 5\hat{\mathbf{k}})$ and $\mathbf{B} = (6\hat{\mathbf{i}} - 7\hat{\mathbf{j}} + 4\hat{\mathbf{k}})$ find:
(a) \mathbf{A}^2 ; (b) \mathbf{B}^2 ; (c) $(\mathbf{A} \cdot \mathbf{B})^2$.