

QUESTION

Evaluate $\mathbf{a} \cdot \mathbf{b}$ where $\mathbf{a} = 2\mathbf{i} - \mathbf{j} + 2\mathbf{k}$ and $\mathbf{b} = \mathbf{i} + \mathbf{k}$.

ANSWER

$$\mathbf{a} \cdot \mathbf{b} = (2, -1, 2) \cdot (1, 0, 1) = 2 + 0 + 2 = 4$$