QUESTION
Find the angle between the vectors $\mathbf{c} = \mathbf{i} + 3\mathbf{j}$ and $\mathbf{d} = 3\mathbf{i} - \mathbf{j} + 2\mathbf{k}$.

ANSWER
$\mathbf{c}.\mathbf{d} = (1, 3, 0).(3, -1, 2) = 3 - 3 + 0 = 0$ i.e. $\cos\theta = 0, \theta = \frac{\pi}{2}$