

Higher Maths
SQA 2025 Paper 1
Question 10

The vectors \mathbf{u} and \mathbf{v} are such that:

- $\mathbf{u} = \begin{pmatrix} 1 \\ 1 \\ 0 \end{pmatrix}$

- $\mathbf{v} = \begin{pmatrix} 1 \\ 3 \\ k \end{pmatrix}$

- the angle between \mathbf{u} and \mathbf{v} is 45° .

Find the value of k , where $k > 0$.

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Answer:

$$\sqrt{6}$$