

Higher Maths
SQA 2017 Paper 1
Question 5

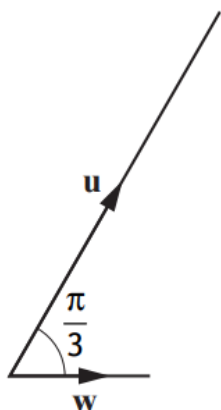


Vectors \mathbf{u} and \mathbf{v} are $\begin{pmatrix} 5 \\ 1 \\ -1 \end{pmatrix}$ and $\begin{pmatrix} 3 \\ -8 \\ 6 \end{pmatrix}$ respectively.

(a) Evaluate $\mathbf{u} \cdot \mathbf{v}$.

1

(b)



Vector \mathbf{w} makes an angle of $\frac{\pi}{3}$ with \mathbf{u} and $|\mathbf{w}| = \sqrt{3}$.

Calculate $\mathbf{u} \cdot \mathbf{w}$.

3

Answers:

(a) 1

(b) $\frac{9}{2}$ or 4.5