


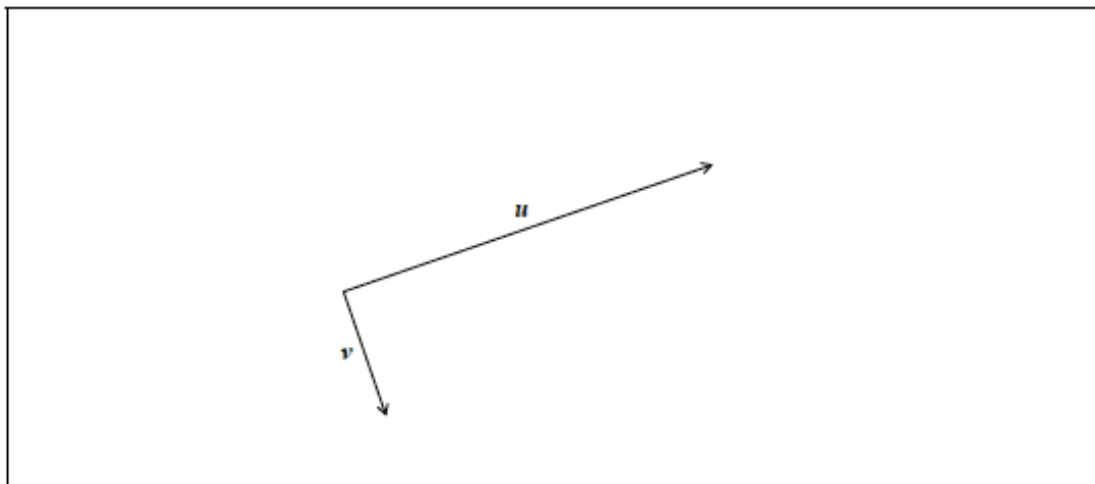
Vector diagram

Parallelogram

1. Opposite sides are parallel
(Same direction vector)
2. Opposite sides are equal length
(Same magnitude)

Paper 2

1.  The following diagram shows two perpendicular vectors u and v .



- (a) Let $w = u - v$. Represent w on the diagram above.

- (b) Given that $u = \begin{pmatrix} 3 \\ 2 \\ 1 \end{pmatrix}$ and $v = \begin{pmatrix} 5 \\ n \\ 3 \end{pmatrix}$, where $n \in \mathbb{Z}$, find n .
