Position vectors

A vector used to represent a position is unsurprisingly known as a **position vector**.

A position can be thought of as a translation from the origin.

The position vector of a point $A$ is the vector$ \vec{OA}$, where $O$ is the origin. $\vec{OA}$ is usually written as $a$.

Examples

1. The points $A$ and $B$ have coordinates $\left(3,4\right)$ and $(11,2)$ respectively.

Find, in terms of $i$ and $j$:

1. The position vector of $A$
2. The position vector of $B$
3. The vector $\vec{AB}$

2. $\vec{OA}=5i-2j$ and $\vec{AB}=3i+4j$. Find:

a) The position vector of $B$.

b) The exact value of $\left|\vec{OB}\right|$ in simplified surd form.

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