Modelling with vectors



Examples

1. A girl walks 2 km due east from a fixed point $O$ to $A$, and then 3 km due south from $A$ to $B$. Find
2. the total distance travelled
3. the position vector of $B$ relative to $O$
4. $\left|\vec{OB}\right|$
5. The bearing of $B$ from $O$.
6. In an orienteering exercise, a cadet leaves the starting point $O$ and walks 15 km on a bearing of $120°$ to reach $A$, the first checkpoint. From $A$ he walks 9 km on a bearing of $240°$ to the second checkpoint, at $B$. From $B$ he returns directly to $O$.

 Find:

1. the position vector of $A$ relative to $O$
2. $\left|\vec{OB}\right|$
3. the bearing of $B$ from $O$
4. the position vector of $B$ relative $O$.

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