$\vec{v} \times \vec{u} = -2i + 7j + 6k$

Notice that $\vec{u} \times \vec{v} \neq \vec{v} \times u$

Theorem: For any vectors $\vec{u}$, $\vec{v}$ and $\vec{w}$ in $\mathbb{R}^3$, where $\vec{O} = (0,0,0)$. Then we have:

1. $\vec{u} \times \vec{v} = -(\vec{v} \times \vec{u})$
2. $\vec{u} \times \vec{u} = \vec{O}$
3. $\vec{u} \times (\vec{v} + \vec{w}) = \vec{u} \times \vec{v} + \vec{u} \times \vec{w}$
4. $(\vec{u} + \vec{v}) \times \vec{w} = \vec{u} \times \vec{w} + \vec{v} \times \vec{w}$

$\forall\ \vec{u}$ & $\vec{v}$ in $\mathbb{R}^3$, where m is scalar & $\vec{O} = (0,0,0)$ we have:

5. $m(\vec{u} \times \vec{v}) = (m\vec{u}) \times \vec{v} = \vec{u} \times (m\vec{v})$
6. $\vec{u} \times \vec{O} = \vec{O} \times \vec{u} = \vec{O}$
7. $\vec{i} \times \vec{j} = \vec{k}$, $\vec{j} \times \vec{k} = \vec{i}$, $\vec{k} \times \vec{i} = \vec{j}$

$\vec{j} \times \vec{i} = -\vec{k}$, $\vec{k} \times \vec{j} =$