**Answer on Question #46878 – Math – Vector Calculus**

*Find the vector product axb. If a = 2i + 3j + 4k and b = 5i - 2j + k*

**Solution**

***11i + 18j - 19k***
*2j + 3k*
*5i - 6j + 7k*
*4i - 6j +11k*

By the definition of vector product

$$[a,b]=\begin{vmatrix}\boldsymbol{i} & \boldsymbol{j} & \boldsymbol{k}\\ 2 & 3 & 4\\ 5 & -2 & 1\end{vmatrix}=3\cdot 1\cdot\boldsymbol{i}+4\cdot 5\cdot\boldsymbol{j}+2\cdot(-2)\cdot\boldsymbol{k}-3\cdot 5\cdot\boldsymbol{k}-4\cdot(-2)\cdot\boldsymbol{i}-1\cdot 2\cdot\boldsymbol{j}=$$

$$=11\boldsymbol{i}+18\boldsymbol{j}-19\boldsymbol{k}$$

**Answer:** a