“QUIZ” for Lecture 2

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E-MAIL ADDRESS SCANNED .pdf OF COMPLETED QUIZ to DrZcalc3@gmail.com (Attachment: q2FirstLast.pdf ) ASAP BUT NO LATER THAN FRIDAY Sept. 11, 8:00pm

1. Determine whether the two vectors are orthogonal and if not, whether the angle between them is acute or obtuse. **a***. (*1*,* 1*,* 1*) , (*3*, −*2*, −*1*) .*

**b***. (*4*,* 3*) , (*2*, −*4*) .*

1. $\left(1,1,1\right)\*\left(3,-2,-1\right)=0$ means these two vectors are orthogonal.
2. $\left(4,3\right)\*\left(2,-4\right)=-4$ means the cosine of the angle between two vectors is a negative number, which means the angle between them is obtuse.
3. Calculate **v** *×* **w**, if

**v** = *(*0*,* 1*, −*1*) ,* **w** = *(*1*, −*1*,* 0*)*

$v×w=\begin{matrix}i&j&k\\0&1&-1\\1&-1&0\end{matrix}$=$i\*\begin{matrix}1&-1\\-1&0\end{matrix}-j\*\begin{matrix}0&-1\\1&0\end{matrix}+k\*\begin{matrix}0&1\\1&-1\end{matrix}$=$-i-j-k$=<-1,-1,-1>