Mathematica practice
9/12/2017

$a = \{1, 2, 3\}$	assign a vector
$a.b$	take dot product of two vectors
Cross$[a, b]$	take cross product of two vectors
Norm$[a]$	compute the length of a vector

Practice
$a = \{1, 2, 3\}$, $b = \{1, -1, 0\}$, $c = \{0, 1, 2\}$. Compute $\|a + 2b - c\|$, $(a \times b) \times c$ and $a \cdot (b \times c)$.

A={{1,2,3},{4,5,6},{7,8,9}}	assign a matrix
MatrixForm$[A]$	show matrix in planar form
Det$[A]$	compute the determinant of a matrix
A[[i,j]]	the entry at the i'th row and i'th column
A[[i]]	the i'th row
A[[All,j]]	the j'th column

Practice
Execute the above commands.

Practice
Write the parametrization of a line passing through point $A(1, 0, -1)$ with direction vector $a = \langle 2, 1, 1 \rangle$.

Some plotting commands

Plot	plot function $y = f(x)$
Plot3D	
ContourPlot	
ContourPlot3D	
ParametricPlot	
ParametricPlot3D	

Some options

Axes→True/False	Show/Hide axes
AxesLabel→{...}	
Mesh→True/False	Show/Hide mesh
ViewPoint→{...}	