

Sheet1

SAMPLE Template for AS-EASY-AS

3-Dimensional Vector Operations

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Basic 3-Dimensional Vector Operations Worksheet. The Calculated cells have been Protected (locked). You may Unlock them (/SGPD) if you want to change the model to suit your purposes.

VECTOR DE-COMPOSITION X-Y-Z

Magnitude = 150.0000
Angle [xy] (deg/rad) = 90.0000 1.5708
Angle [z] (deg/rad) = 90.0000 1.5708

Vector = $\begin{matrix} i & j \\ 0.0000 & 150.0000 \end{matrix}$

VECTOR ADDITION

Vector A = $\begin{matrix} i & j \\ 200.0000 & 0.0000 \end{matrix}$
Vector B = $\begin{matrix} i & j \\ 90.0000 & 120.0000 \end{matrix}$
Sum (A+B) = 290.0000 120.0000
Magnitude = 314.4837

DOT PRODUCT

Vector A = $\begin{matrix} i & j \\ 200.0000 & 10.0000 \end{matrix}$
Vector B = $\begin{matrix} i & j \\ 90.0000 & 120.0000 \end{matrix}$

Dot Product (A·B) = 19400.0000

VECTOR ANGLE AND MAGNITUDE CALCULATIONS

Vector = $\begin{matrix} i & j \\ 20.0000 & 40.0000 \end{matrix}$
Magnitude = 44.7214
Angle [xy] (deg/rad) = 63.4349 1.1071
Angle [z] (deg/rad) = 90.0000 1.5708

ANGLE BETWEEN A AND B

Vector A = $\begin{matrix} i & j \\ 200.0000 & 10.0000 \end{matrix}$
Vector B = $\begin{matrix} i & j \\ 90.0000 & 120.0000 \end{matrix}$
Angle (rad/deg) = 0.8865 50.7913

CROSS PRODUCT

Sheet1

	i	j
Vector A =	200.0000	10.0000
Vector B =	90.0000	120.0000

Cross Prod (AxB) =	0.0000	0.0000
Magnitude =	23100.0000	

k
0.0000

k
20.0000
0.0000

20.0000

k
10.0000
20.0000

k
0.0000

k
30.0000
0.0000

k
0.0000
0.0000

23100.0000

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