

We will represent a vector $x\mathbf{i} + y\mathbf{j}$ in the form $[x,y]$ with Classpad.

Open the Math3 keyboard, tap **[]** once, enter required components separated by a comma and tap **EXE**.

Note the comma is dropped.

To determine the magnitude of the vector, tap **Action, Vector, norm**

Tap EXE.

Determine a unit vector or convert into polar form in a similar way.

*Note that the use of **toPol** returns both the magnitude and direction of the vector.*

The screenshot shows the ClassPad II interface with the Math3 keyboard open. The input field contains the vector $[2, 5]$. The keyboard has a blue highlight on the **[]** key.

The screenshot shows the ClassPad II interface with the Math3 keyboard open. The input field contains the vector $[2, 5]$. The **Action** menu is open, and the **Vector** submenu is displayed, with **norm** highlighted.

The screenshot shows the ClassPad II interface with the Math3 keyboard open. The input field contains the vector $[2, 5]$ and the function **norm(**. The result $\sqrt{29}$ is displayed.

The screenshot shows the ClassPad II interface with the Math3 keyboard open. The input field contains the vector $[2, 5]$ and the function **unitV([2 5])**. The result is a unit vector $\left[\frac{2\sqrt{29}}{29} \quad \frac{5\sqrt{29}}{29} \right]$. Below it, the function **toPol([2 5])** is shown, resulting in $[5.385164807 \angle (68.198590)]$.

If an operation involves more than one vector, simply separate the vectors with a comma.

To determine the angle between two vectors or their dot-product, enter a comma between them.

To determine the Cartesian form of a vector given its magnitude and angle with the x-axis (eg 10 units at 30°) use **toRect**.

The angle must be preceded by \angle , found in the Math3 keyboard.

Tip: Set up Shift keys for the left and right vector brackets: [and]

Edit Action Interactive
 [2, 5]
 norm([2 5])
 $\sqrt{29}$
 unitV([2 5])
 $\left[\frac{2\sqrt{29}}{29} \quad \frac{5\sqrt{29}}{29} \right]$
 toPol([2 5])
 [5.385164807 \angle (68.198590)]
 angle([2, 5], [4, 3])
 31.32869287
 dotP([2, 5], [4, 3])
 23
 []

Alg Decimal Real Deg

Edit Action Interactive
 [10, \angle (30)]
 toRect([10, \angle (30)])
 [5 $\sqrt{3}$ 5]
 []

Math1	Line	$\sqrt{\square}$	π	\rightarrow
Math2	Define	f	g	i
Math3	solve(dSlv	'	{ \square , \square
Trig	<	>	()	{ } []
Var	\leq	\geq	=	\neq
abc	\angle			
	\leftarrow	\rightarrow	ans	EXE

Alg Standard Real Deg