Bold math with **bm**

This is actually pretty simple. Within math you may use the `\mathXX` with `XX = rm`, `sf`, etc… command to get the various text fonts in math mode. This is good because vectors in math are often displayed with upright bold symbols. For example:

$$\vec{M} = \mathbf{M} = (M_x, M_y, M_z)$$

So people get the idea that `\mathbf` is the way to get bold symbols in math mode. However, what happens when you try Greek in there?
`$\mathbf{\xi}$` $= \xi$, i.e. it doesn't work. That xi is not bold!

The same thing happens if there is no bold version of the font we've chosen for text mode (for example, Knuth's Concrete font, available in scalable Type 1 format in the CM-Super font package). We want instead a command which accesses the bold version of our *math* font. The **bm** package provides the **bm** command for exactly this purpose:

Command	Output
`${a}$`	a
`$\mathbf{a}$`	$\mathbf{a}$
`$\bm{a}$`	$\boldsymbol{a}$
`${\xi}$`	ξ
`$\mathbf{\xi}$`	ξ
`$\bm{\xi}$`	$\boldsymbol{\xi}$

And there you have it. This command will also do things like make bold centred dots ($\boldsymbol{\cdot}$) for vector dot multiplication, or bold integral signs ($\boldsymbol{\int}$) if you really feel inclined.