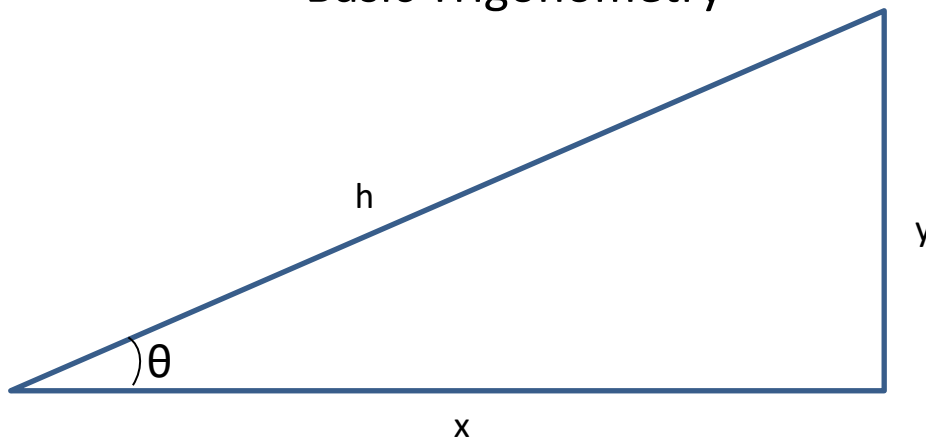


Basic Trigonometry



Pythagoras: $h^2 = x^2 + y^2$ or $h = \sqrt{x^2 + y^2}$

So.... $x = \sqrt{h^2 - y^2}$ and $y = \sqrt{h^2 - x^2}$

If you have the length of two sides you can calculate the third.

$\text{Sin}(\theta) = y / h$ so if you know h , then $y = h * \text{Sin}(\theta)$

$\text{Cos}(\theta) = x / h$ so if you know h , then $x = h * \text{cos}(\theta)$

$\text{Tan}(\theta) = y / x$

Can also use inverse Sin, Cos and Tan to get the angle, θ , for known lengths if required.

The importance of this basic trigonometry is that we always specify positions on screen by (x,y) co-ordinates, so, for example, if we want the length h to remain the same for given coordinates of one end and either a given x or y , we can calculate the corresponding y or x from these formulae.