The use of Pol(and Rec(.

Trigonometry - a branch of mathematics that studies relationships involving lengths and angles of triangles.
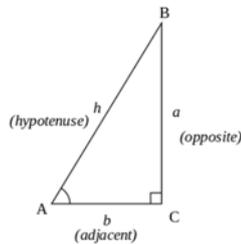
The Coordinate Plane - points are placed on the "coordinate plane". It has two axes - one running horizontally called the 'x-axis', the another at right angles (vertically) called the 'y-axis'. The point where the axes cross is called the **origin** and is where both x and y are zero, with coordinates (0,0). Point A has coordinates (20,15).
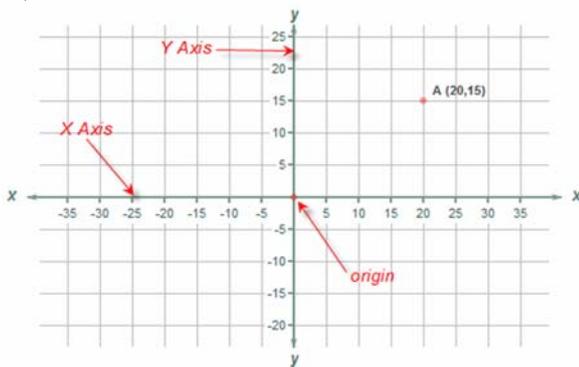
Use of Pol(

Example 1: To find the length of the hypotenuse, and the angle the point (1,1) makes with the positive x-axis, measured from (0,0), use **Pol(** [polar coordinates]. To access **Pol(**, use [**SHIFT**] then [+]. The comma is retrieved using [**SHIFT**] then [)].

Once **Pol(1,1)** has been entered press [=] to find the length labeled 'r', and angle labeled θ.

To retrieve the value of θ if you see an arrow pointing to the right, ► then press the right 'REPLAY' arrow for θ to appear on screen.

Here r = 1.414 (3 d.p.) metric units and θ = 45°.

Example 2: Find the length of the hypotenuse, and the angle the point (1,4) makes with the positive x-axis, measured from (0,0).

Here r = 4.123 (3 d.p.) metric units and θ = 75.964°(3 d.p.).
Note: $Pol(x,y)^2$ gives you the length of the hypotenuse squared, $x^2 + y^2 = h^2$.

Use of Rec(

If you know the angle and the hypotenuse length then you can calculate the horizontal and vertical lengths of the triangle.
Example: If r = $\sqrt{2}$ metric units and θ = 45°, what are the horizontal and vertical lengths of the triangle?
Use Rec([rectangular coordinates]. To access **Rec(**, use [**SHIFT**] then [-]. The comma is retrieved using [**SHIFT**] then [)].Once entered press [=].

Here the horizontal length (x) = 1 metric unit and vertical length (y) = 1 metric unit.