

Compass:

$0^\circ = N$

 $+90 \rightarrow$ 

Dog:

$90^\circ$

$90^\circ = E$

 $-90 \rightarrow$ 

$0^\circ$

$-90^\circ = W$

 $+270 \rightarrow$ 

$180^\circ$

$180^\circ = \text{South} \xrightarrow{+90}$

$270^\circ$

So you need to  
inverse to convert

Converting Cartesian to Polar:

90 - given -

Converting Polar to Cartesian:

90 - given.