

Problem statement Find the Cartesian coordinates of all points of intersection of the curves with polar equations $r^2 = 4 \sin \theta$ and $r = 1 - \sin \theta$. Sketch these curves on the same coordinate axes.

Warning $(0, \theta_1)$ and $(0, \theta_2)$ represent the same point *always*; so do (r, θ) and $(-r, \theta \pm \pi)$.