Math 32 Groupwork 39

[1]   Sketch the polar graph $r = 3 - 4\cos^2\theta$ by first completing the table of r – values for the given list of θ – values.
Give the exact value of r in each case, as well as a decimal approximation to 1 decimal place. Use $\sqrt{2} \approx 1.4$ and $\sqrt{3} \approx 1.8$.
Then plot all 17 points, and connect with a **smooth curve** in increasing order of θ.

$\theta =$	$r = 3 - 4\cos^2\theta$ **(exact value, may involve radicals)**	$r = 3 - 4\cos^2\theta$ (rounded to 1 decimal place)	(r, θ)
0			
$\frac{\pi}{6}$			
$\frac{\pi}{4}$			
$\frac{\pi}{3}$			
$\frac{\pi}{2}$			
$\frac{2\pi}{3}$			
$\frac{3\pi}{4}$			
$\frac{5\pi}{6}$			
π			
$\frac{7\pi}{6}$			
$\frac{5\pi}{4}$			
$\frac{4\pi}{3}$			
$\frac{3\pi}{2}$			
$\frac{5\pi}{3}$			
$\frac{7\pi}{4}$			
$\frac{11\pi}{6}$			
2π			