***P.O. D. Unit 4***

***4.1 Describe the graphs of: 1.*** $r=4$

 ***2.*** $ϑ=\frac{π}{6}$

***4.2 Graph by hand*** $r^{2}=4cos (2θ)$ ***(lemniscate). Name the smallest interval need to complete an entire cycle.***

***4.3 Write each number in its 4 forms***

 ***a) (0, -3)***

 ***b)*** $[4, \frac{π}{6}]$

 ***c)*** $-3(cos \frac{3π}{4}+isin \frac{3π}{4}$

 ***d) 4+ 6i***

***4.4 Prove*** $z∙z$ ***is a real number, if z= a+bi***

***4.5 Suppose*** $z=[1.2, \frac{π}{2}]$***. Find successive powers*** $z^{2}-z^{9}.$ ***Plot all powers of z in the complex plane***