Analysis H – Deggeller / Gleason / Hahn

Pieologist: _____

Polar Quiz 1 [26 points]

Period: _____

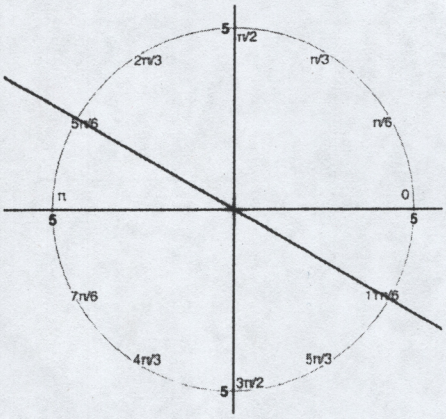
NO CALCULATOR

1. Convert the polar point $\left(-7, \frac{31\pi}{6}\right)$ into rectangular coordinates. [2 pts]

2. Convert the polar equation $r = 2csc\,\theta$ into rectangular form. [3 pts]

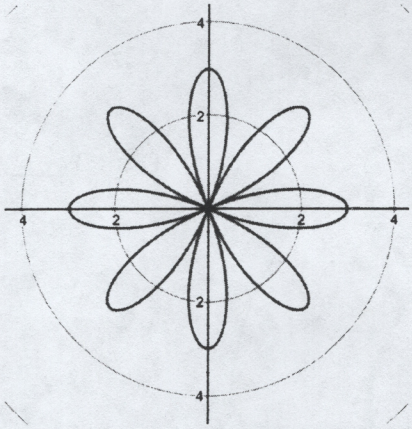
3. Write the equation of each polar graph. [3 pts each]

a)



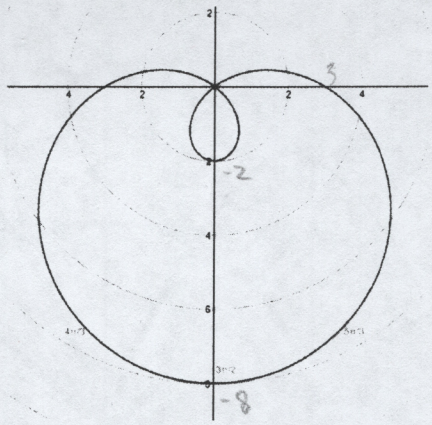
Equation: _____

b)



Equation: _____

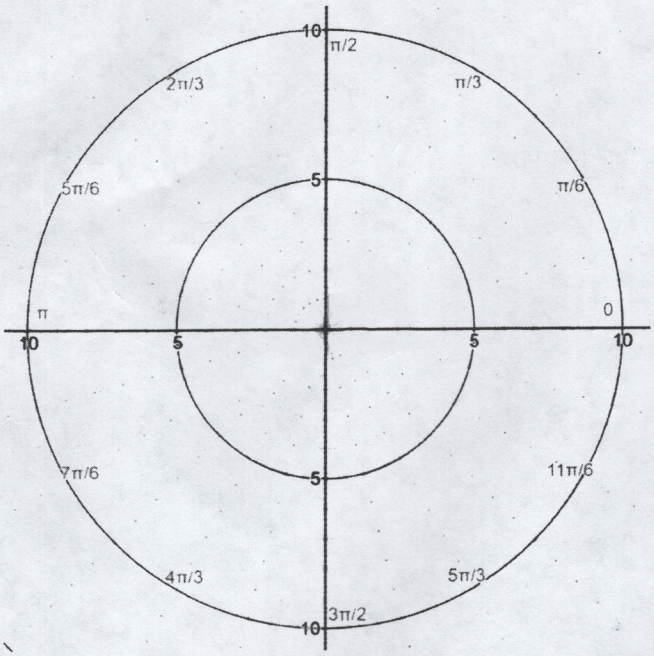
c)



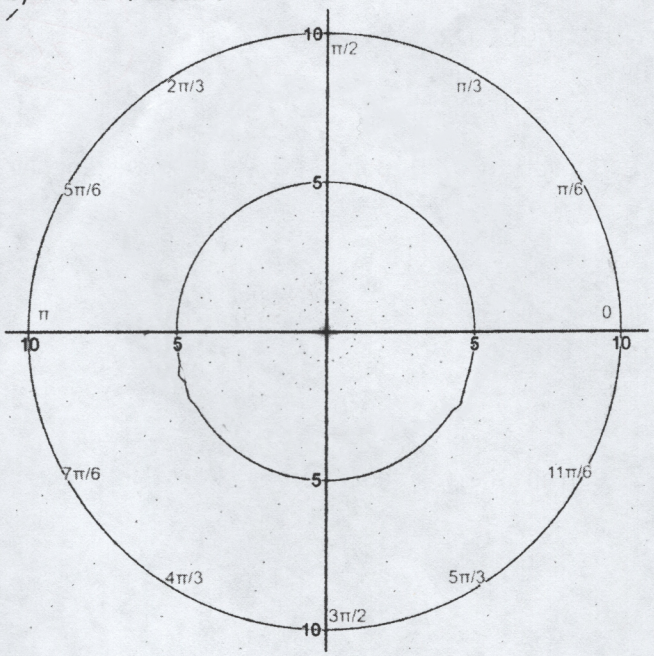
Equation: _____

4. Graph each polar graph [4 pts each]

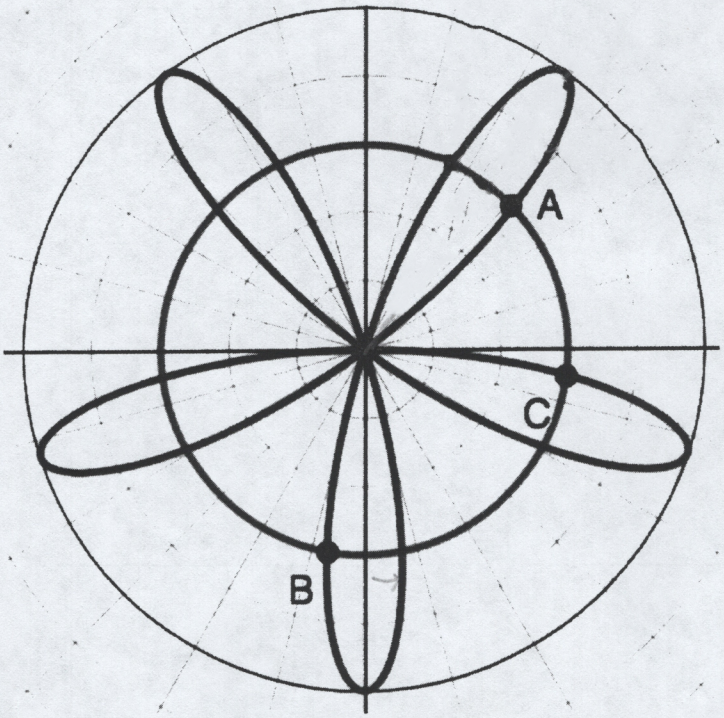
a) $r^2 = 8\sin(2\theta)$



b) $r = 6 + 2\sin\theta$



5. The graph below shows a rose curve and a circle graphed on a polar axis. Both curves are symmetric around the line $\theta = \frac{\pi}{2}$. If point A is (3, 43.4), where the angle is measured in **degrees**, find the coordinates of points B and C. Give your angles in degrees. [4 pts]



Point B: _____, Point C: _____