**5C Integrating Polar Curves**

**0, 2π**

**π 2**

**π**

**3π 2**

$$r=1+cosθ$$

**π 6**

**π 3**

1. Find the area enclosed by the cardioid with equation:

r = a(1 + cosθ)



1. Find the area of one loop of the curve with polar equation:

r = asin4θ



1. On the same diagram, sketch the curves with equations:

r = 2 + cosθ

r = 5cosθ



1. Find the polar coordinates of the intersection of these curves
2. Find the exact value of the finite region bounded by the 2 curves

