

Name: _____

Math 121

Self-Assessment Quiz #12

Week 13

• Please see the course webpage for the answer key.

1. Compute the **area** bounded outside the polar curve $r = 1 + \sin \theta$ and inside the polar curve $r = 3 \sin \theta$. **Sketch** the Polar curves **and** shade the bounded area.

2. (a) Sketch the polar curve $r = 1 + 2 \cos \theta$.

(b) Set-up, **BUT DO NOT EVALUATE!!**, the definite integral representing the area inside the larger loop.

(c) Set-up, **BUT DO NOT EVALUATE!!**, the definite integral representing the area inside the smaller loop.

3. (a) Sketch the polar curves $r = 2 + 2 \cos \theta$ and $r = 2 - 2 \cos \theta$ on the same graph.

(b) Compute the area bounded between the polar curves $r = 2 + 2 \cos \theta$ and $r = 2 - 2 \cos \theta$.