

Math 201-152 Quiz 2

Name \_\_\_\_\_ Section \_\_\_\_  
Serial # \_\_\_\_\_ Id \_\_\_\_\_

Q1: a) Draw the curve with polar equation  $r^2 = 2 \cos(2\theta)$  :

( find  $\theta$  where  $\cos(2\theta)$  is  $\geq 0$ ; use this to determine in which quadrants the graph should be drawn. )

b) Set up, but do not evaluate, the integral that gives the area inside both the curves with polar equations  $r^2 = 2 \cos(2\theta)$  and  $r = 1$ .

Q2: Find the length of the polar curve

$$r = \sqrt{1 + \cos(2\theta)}, 0 \leq \theta \leq 2\pi$$