KFUPM **QUIZ (1b)** **MATH 201-171**

Name:_____S.ID:_____Sec.( ) Ser.# ( )

1. Find the area of the surface obtained by rotating the given curve about the x-axis.

$$x = \sqrt{5}\cos^3\theta\,, \qquad y = \sqrt{5}\sin^3\theta\,, \qquad 0 \le \theta \le \frac{\pi}{2}.$$

2. Find the points on the given curve where the tangent line is horizontal or vertical.

$$r = 1 + \cos\theta.$$ Show these points on the graph.