Dr. Z.'s Math 421(1), (Fall 2014, RU) REAL Quiz #10

NAME: (print!) _____

E-MAIL ADDRESS: (print!) _____

1. (10 points) Find the general expression, in polar coordinates, for the steady-state temperature $u(r, \theta)$ in the **infinite** plane with a circular hole of radius 2 cut-out, and where the temperature at the bounding ring is $u(2, \theta) = 2 \sin 3\theta, 0 < \theta < 2\pi$.