SECTION 7.4: AREA IN POLAR COORDINATES

(1) Suppose $r = f(\theta)$ is a continuous and nonnegative on the interval from $\alpha \leq \theta \leq \beta$, then the area bounded by $r = f(\theta)$ and the radial lines $\theta = \alpha$ and $\theta = \beta$ is

(2) Set up and evaluate the integral to find the area enclosed by the polar curve $r = 10\cos(\theta)$.

(3) Let R be the region enclosed by the polar curve $r = 2\cos(3\theta)$. Shade the region R, then Set up and evaluate the integral to find the area of R.