Section 16.4: Additional Problems

1. Evaluate $\oint_{\partial D} y^2dx + 3xydy$, where D is the region in the upper half-plane between the circles $x^2+y^2 = 4$ and $x^2+y^2 = 9$. Assume the region is bounded by a positively oriented curve.

2. Evaluate the line integral shown below where C is the path From the point $(0, 0)$ to the point $(2, 4)$ along the function $y = x^2$ and then from the point $(2, 4)$ back to the point $(0, 0)$ along the path $y = 2x$

   $\int_C 5xydx + x^3dy$

3. Use Green's Theorem to find the area bounded between $y = 2x^2$ and $y = 4x$. Assume that there is a positive orientation.