Math 241 Fall 2018 Professor MG
Classwork 9 Name: _____

Show all work and circle/box your final answer. All answers must be simplified unless stated otherwise.

1. (*0 points*) Find the following integrals:

(a) $\int_0^{\pi/4} \frac{2\sin x}{\cos^2 x}\, dx$

(b) $\int_0^{\pi/4} \tan^4 x \sec^2 x\, dx$

2. (*0 points*) Find the volume of the solid that lies between planes perpendicular to the x-axis at $x = -1$ and $x = 1$. The cross-sections perpendicular to the x-axis between these planes are squares whose bases run from the semicircle $y = -\sqrt{1 - x^2}$ to the semi circle $y = \sqrt{1 - x^2}$.

3. (*0 points*) Find the area of the shaded region (Note you can do this using either x or y)