

Show all work and circle/box your final answer. All answers must be simplified unless stated otherwise. If you finish early, you may leave with my approval.

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 area of the shaded region

