

## HW #19 Final Answers

Note: Show All Sketches!

1.  $\frac{16\pi}{15}$

2.  $8\pi$

3.  $27\pi$

4.  $\pi \int_0^2 (e^x + 1)^2 - (x+1)^2 dx$  STOP here

5.  $\pi \int_0^1 1^2 - (x^2)^2 dx = \pi \int_0^1 1 - x^4 dx$  STOP here

6. (a)  $3\ln 3 - 2$

(b)  $\pi \int_0^{\ln 3} 4^2 - (e^x + 1)^2 dx$  STOP here

7.  $\pi \int_0^{\frac{\pi}{4}} (\cos x + 1)^2 - (\sin x + 1)^2 dx$  STOP here