

# MAT 132-Practice Midterm 1-Spring 2019

NAME:

TA NAME:

\*There are 9 questions worth 11 points each. (1 point for knowing your TA's name)

1. Compute:  $\int \frac{dx}{x^2\sqrt{4-x^2}}$

2. Set up an integral (DO NOT COMPUTE) which gives the volume when the region enclosed by  $y = x^2$  and  $y = x$  is revolved about  $y = 5$ .

3. Compute:  $\int \frac{5x-10}{x^2-3x-4} dx$

4. Compute  $\int x^2 \ln x dx$

5. Calculate  $\int_2^\infty \frac{\ln x}{x^2} dx$  or show divergence.

6. Calculate  $\int_0^2 \frac{1}{x-1} dx$  or show divergence.

7. Derive the volume of the cone.

8. Compute  $\int \frac{x^2+x-2}{(3x-1)(x^2+1)} dx$



9. Compute  $\int \frac{1}{x^2-6x+13} dx$  by completing the square.