

MAT 126-Practice Final Exam-2018

NAME:

*There are 9 questions worth 11 points each!

1. Compute: $\int x^3 \sqrt{5-x^2} dx$

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

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

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

5. Approximate $\int_0^2 \frac{1}{1+x^6} dx$ using the trapezoid rule ($n = 2$)

6. Draw a graph of $F(x) = \int_0^x \sqrt{3-t^2} dt$ on a scaled set of axes with correct concavity.

7. Derive the volume of the cone.

8. Compute $\int \frac{2x^2-1}{(4x-1)(x^2+1)} dx$

9. Compute $\int \frac{1}{x^2-4x+11} dx$