

Work-It-Out Day 10: Sections 8.1,8.3, 8.4
Math 142 - Spring 2016

1. Calculate the arclength of $f(x) = (x + 2)^{3/2}$ for x in $[1, 3]$.
2. Approximate the arclength of $f(x) = \frac{1}{x}$ using S_6 over $[1, 2]$.
3. Find the centroid of the triangle in the first quadrant bounded by the x and y axes and the line $y = 4 - x$.

4. Find the centroid of the quarter of the unit circle lying in the third quadrant.

5. Find T_2 for $y = e^{\cos(x)}$ at $x = \pi$. Use a calculator to compute the error at $x = 3$.

6. Estimate the maximum error for x in $[0, 0.5]$ for T_2 of $f(x) = \ln(x + 3)$.