

## Math 251: Pledged Set 8

Due: November 5, 2009

*This is a pledged set. Therefore, no outside help from book, calculator, or other people.*

1. Use Newton's Method to get  $x_2$  for the equation

$$x^5 + 2$$

with  $x_1 = -1$ .

2. Find the antiderivative of

$$\sqrt[4]{x^3} + \sqrt[3]{x^4}.$$

3. A particle is moving with the given data. Find the position of the particle when

$$a(t) = \cos(t) + \sin(t), \quad s(0) = 0, \quad v(0) = 5$$

4. Estimate the area under the graph of  $\sqrt{x}$  from  $x = 0$  to  $x = 4$  using four approximating rectangles and right endpoints.
5. Express

$$\lim_{n \rightarrow \infty} \sum_{i=1}^n \frac{\cos x_i}{x_i} \Delta x$$

as a definite integral on  $[\pi, 2\pi]$ .