MATH 1525 CALCULUS I Quiz 13 Name:
PROF. PAUL BAILEY April 30, 2004

Problem 1. Compute the arclength of the graph of

$$y = \frac{x^4}{4} + \frac{1}{8x^2}$$

between $x = 1$ and $x = 3$.

Problem 2. Newton's Law of Gravitation states that two bodies with masses m_1 and m_2 attract each other with a force

$$F = G\frac{m_1 m_2}{r^2},$$

where r is the distance between the the centers of mass of the bodies, and G is a universal constant. Assuming that one of the bodies is fixed, find the work needed to move the other from $r = a$ to $r = b$.