

MthU242  
Northeastern University  
Quiz #6  
20 Minutes

Calculus II  
Professor Gilmore  
Feb. 15, 2007

Name: \_\_\_\_\_.

Show All Your Work

1. Consider the sequence  $a_n = \frac{3n^3 + 5n^2}{100,000 - 7n^3}$ .

a. Does this sequence diverge, or converge? Give reasoning for your answer.

b. If it converges, give the number to which it converges, again, with reasoning to support your answer.

2. A cable that weighs 2 lbs. per foot is used to lift 800 lbs. of coal 500 feet up a mine shaft. How much work is done?

Name: \_\_\_\_\_.