NAME: _____ **PIN**: _____

1. Fill in the two blanks. By using the Limit Comparison Test, one can show that the formal series

$$\sum_{n=1}^{\infty} \frac{\sqrt{n^3+100n^2+5n-3}}{1002n^4+n-1} \ . \tag{1}$$

is _____ by comparing the series in (1) to the p-series $\sum \left(\frac{1}{n}\right)^p$ with _____ .

a. convergent, $p = \frac{5}{2}$
b. divergent, $p = \frac{5}{2}$
c. convergent, $p = 1$
d. divergent, $p = 1$
e. none of the others