Name: _____

You will have 3 points by writing your name on the quiz, so I know you come. Justify your
answers algebraically whenever possible; please do not use calculators.
You have 15 minutes to take this 20 point quiz.

1. (*4 points*)
Find the limit of the sequence $a_n = n^2 e^{-n}$.

2. (*5 points*)
Determine whether the series is convergent: $\displaystyle\sum_{n=1}^{\infty} n^2 e^{-n^3}$

3. (*8 points*)
Determine whether the series is convergent: $\displaystyle\sum_{n=1}^{\infty} \sin\frac{1}{n}$