Due on February 20, 2006, Monday

MATH 114 Homework 2

Find the limits of the following sequences, if they converge.

1. $a_n = \dfrac{n!}{n^n}$.

2. $a_n = \dfrac{n!}{10^{6n}}$.

3. $a_n = \left(\dfrac{1}{n}\right)^{1/\ln n}$.

4. $a_n = \dfrac{n^2}{3n-1} \sin \dfrac{1}{n}$.

5. $a_n = \dfrac{(\ln n)^{2006}}{n}$.