MA 225 **Problem Session 1**

Name:

1. In each case find the limit, $\lim_{n\to\infty} a_n$ of the sequence $\{a_n\}_{n=1}^{\infty}$, or determine that it does not exist.

(a) $a_n = 5 - \dfrac{3}{n^2}$

(b) $a_n = 2 + (-1)^n$

(c) $a_n = \dfrac{3n^4 - 7n^2 + 5}{6 - 4n^4}$

(d) $a_n = \sqrt{\dfrac{2n+3}{3n+5}}$

(e) $a_n = \dfrac{n^2}{2^n}$

(f) $a_n = \left(1 + \dfrac{4}{n}\right)^n$