Assignment I

1 Define what do you mean by '1 is a limit point of an infinite sequence x_n'.

2 Show that $\frac{1}{n^2}$ converges to zero.

3 Show that the sequence $x_n = 2 - 1/n^2$ converges to 2.

4 Consider the sequence $x_n = \frac{n}{2n+1}$. Does x_n converge to any limit? Explain.

5 Consider the sequence $x_n = \frac{n^2}{n+1}$. Does x_n converge to any limit? Explain.

6 Give an example of a sequence which does not converge anywhere (other than the above sequences and examples discussed in the class).