Turn in your solutions by 14/4/2020. See directions in the class webpage.

1. If a sequence of polynomials convergers to f uniformly on $\mathbb{R}$ show that f too is a polynomial.

2. If $f : [1, +\infty) \to \mathbb{R}$ is continuous and the limit $\lim_{x\to+\infty} f(x)$ exists and is a real number show that f can be approximated uniformly by functions of the form $p(1/x)$ where p is a polynomial.