

**Quiz 6** ————— **Math 1272**

**1** Find the limit of the following sequence:

$$\lim_{n \rightarrow \infty} \frac{3 + 3n + 5n^2}{24 + 17n + 2n^2}$$

**2** Does the following series converge? If so find it's sum.

$$\sum_{n=1}^{\infty} 5 \frac{3^{n-1}}{4^{n+2}}$$

**3** Does the following series converge? Why or why not?

$$\sum_{k=1}^{\infty} k e^{-k^2}$$

**4** Does the following series converge? Why or why not?

$$\sum_{n=1}^{\infty} (-1)^n \frac{4n + e^{-n}}{2n + \frac{1}{n}}$$