Quiz 3 — 09/29/16

Answer all questions in a clear and concise manner. Answers that are without explanations or are poorly presented may not receive full credit.

1. Find the limit of the sequences $\{a_n\}_{n=1}^{\infty}$ defined as follows.

(a). $a_n = \dfrac{3n^2+5}{7n^2+n+3}$

(b). $a_1 = 1, \quad a_n = a_{n-1} + 1$ for $n \geq 2$

2. Are the following series convergent or divergent? When convergent find its sum. **Explain!**

(a). $\displaystyle\sum_{n=1}^{\infty} 5\frac{3^{n+1}}{7^n}$

(b). $\displaystyle\sum_{n=1}^{\infty} \frac{3n^2+5}{7n^2+n+3}$