1. (2 points each) Evaluate the following integrals.

(a) \( \int_{3}^{2} \frac{1}{x} \, dx \)

(b) \( \int \frac{1}{\cos^2 x} \, dx \)

2. (3 points) Evaluate the following limit. Be sure to use proper notation throughout your evaluation of this limit.

\[
\lim_{n \to \infty} \sum_{k=1}^{n} \left( -\frac{2k^2}{n^3} + \frac{3}{n^2} \right)
\]
3. (3 points) The number of velociraptors currently in Jurassic Park is 3. It is discovered by Dr. Ian that the number will increase by $4t + 2$ velociraptors per year where $t$ represents the number of years from today. How many velociraptors will be living on the island 5 years from now?