1. Write the first 5 terms of the sequence

$$a_n = \left(-\frac{3}{4}\right)^n$$

3. Simplify $\dfrac{(n+2)!}{n!}$

4. Determine the convergence or divergence of the sequence with the given nth term. If the sequence converges, find its limit.

   (a) $a_n = 3 - \dfrac{1}{n^2}$

   (b) $a_n = \dfrac{\ln(\sqrt[8]{n})}{6n}$

2. Graph the sequence $a_n = \dfrac{6}{n+1}$ for $n = 0$ to 10

   (c) $a_n = \dfrac{4^n}{10^n}$