

- For problem 6, you may use the fact that for all $a > 0$, $\lim_{n \rightarrow \infty} a^{\frac{1}{n}} = 1$.
- For problem 7c, you may use the fact that

$$\lim_{n \rightarrow \infty} \left(1 + \frac{1}{n}\right)^n = e \approx 2.71828,$$

the Euler number.