

EXERCISES

~~15.1~~ Determine which of the following series converge. Justify your answers.

(a) $\sum (-1)^n/n$

(b) $\sum (-1)^n n! / 2^n$

~~15.2~~ Repeat Exercise 15.1 for the following.

(a) $\sum [\sin(n\pi/6)]^n$

(b) $\sum [\sin(n\pi/7)]^n$

~~15.3~~ Show that $\sum_{n=2}^{\infty} 1/[n(\log n)^p]$ converges if and only if $p > 1$.

~~15.4~~ Determine which of the following series converge. Justify your answers.

(a) $\sum_{n=2}^{\infty} 1/(\sqrt{n} \log n)$

(b) $\sum_{n=2}^{\infty} (\log n)/n$

(c) $\sum_{n=4}^{\infty} 1/[n(\log n)(\log \log n)]$

(d) $\sum_{n=2}^{\infty} (\log n)/n^2$