SECTION 5.6: RATIO AND ROOT TESTS

(1) (Review) Explain what it means for $\displaystyle\sum_{n=1}^{\infty} a_n$ to be

    (a) absolutely convergent

    (b) conditionally convergent

(2) Show that the series $\displaystyle\sum_{n=1}^{\infty} \frac{\sin(2n)}{n^5}$ is convergent by showing that it is absolutely convergent.

(3) Show that the series $\displaystyle\sum_{n=1}^{\infty} \frac{(-1)^n}{\sqrt{n}}$ is conditionally convergent.

(4) The Ratio Test

(5) Use the Ratio Test to determine if the series below converge or diverge, or explain why the test fails.

(a) $\sum_{n=1}^{\infty} \frac{(-2)^n}{n!}$

(b) $\sum_{n=1}^{\infty} \frac{n^n}{n!}$

(c) $\sum_{n=1}^{\infty} \frac{2}{3n + 10}$