Answers to Week 10 Week in Review

Section 11.4

1.

    (a) Convergent by Comparison with $\displaystyle\sum_{n=1}^{\infty} \frac{1}{n^2}$

    (b) Divergent by Comparison with $\displaystyle\sum_{n=1}^{\infty} \frac{1}{n}$

    (c) Divergent by Limit Comparison with $\displaystyle\sum_{n=1}^{\infty} \frac{1}{n}$

    (d) Convergent by Limit Comparison with $\displaystyle\sum_{n=1}^{\infty} \frac{1}{n^2}$

Section 11.3

1.

    (a) Convergent by Alternating Series Test

    (b) Convergent by Alternating Series Test

    (c) Divergent by Test for Divergence

    (d) Convergent by Alternating Series Test

2. At least 99 terms

Section 11.6

1.

    (a) Not absolutely convergent

    (b) Absolutely convergent

    (c) N/A

    (d) Absolutely convergent

2.

    (a) Absolutely convergent by Ratio Test

    (b) Divergent by Ratio Test

3. $x \in \left(\dfrac{2}{3}, \dfrac{4}{3} \right]$