

1. – 17.1 (ungraded).

2. – 17.2.

3. – 17.9 (ungraded).

4. – 18.6.

5. – 18.10.

6. – 19.2a.

7. – 19.2b.

8. – 19.6.

9. – 17.14.

10a. – Suppose (a_n) is a decreasing sequence of positive real numbers, and let $b_n = a_{2^n}$. Prove that $\sum a_n$ is convergent if and only if $\sum 2^n b_n$ is convergent. (Hint: the proof of the p -test on Bonus Notes 8.)

10b. Use (a) to determine the values of p for which

$$\sum \frac{1}{n(\log n)^p}$$

converges.