

MATH-102/02 QUIZ 4

April 2012

1. Find the limit of the sequence, $\left[\sqrt{2}, \sqrt{2\sqrt{2}}, \sqrt{2\sqrt{2\sqrt{2}}}, \dots \right]$.

2. Find the values of x for which the series,

$$\sum_{n=1}^{\infty} \frac{\cos^n x}{2^n}$$

converges, and find the sum of the series for those values of x for which it converges.

3. Find the values of p for which the series,

$$\sum_{n=1}^{\infty} \frac{\ln n}{n^p}$$

is convergent.

4. Question 32 of Exercises 11.3, Stewart, Page 704.

5. Estimate $\sum_{n=1}^{\infty} (2n + 1)^{-6}$ to five decimal places. How many terms would you need to add make this estimate?

Due in Wednesday 2nd May.

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