

Quiz 20, November 9, 2016

Does the series $\sum_{n=1}^{\infty} (-1)^n \frac{1}{n+3}$ converge? Justify your answer.

Answer: We apply the alternating series test to

$$-\frac{1}{4} + \frac{1}{5} - \frac{1}{6} + \frac{1}{7} - \frac{1}{8} + \dots$$

We see that the series is an alternating series, the terms in absolute value are decreasing and are decreasing. We conclude that

the series converges.