

Quiz1 - Math 313 - Fall 2014

- (a) Give the definition of convergence for $S = \sum_{n=1}^{\infty} b_n$ where S is a real number and b_n is a real number for each natural number n .
(b) Prove that the series $1 + x + x^2 + x^3 + x^4 + \dots$ converges when $|x| < 1$, and that one can say that

$$1/(1 - x) = 1 + x + x^2 + x^3 + x^4 + \dots$$

- (c) Letting $x = -1$ in the above series, we seem to get that

$$1/2 = 1 - 1 + 1 - 1 + 1 - 1 + \dots$$

Comment on this.