

WRITE YOUR NAME:

MAC 2312 Quiz 15  
Tuesday March 19th

Determine whether the series converges or diverges.

$$\sum_{n=1}^{\infty} \frac{1}{2^n}$$
$$\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{32} + \dots$$

$\xrightarrow{\times 1/2} \quad \xrightarrow{\times 1/2} \quad \xrightarrow{\times 1/2} \quad \xrightarrow{\times 1/2}$

GEOMETRIC series with common ratio  $r = \frac{1}{2}$

Since  $-1 < \frac{1}{2} < 1$ , the series CONVERGES