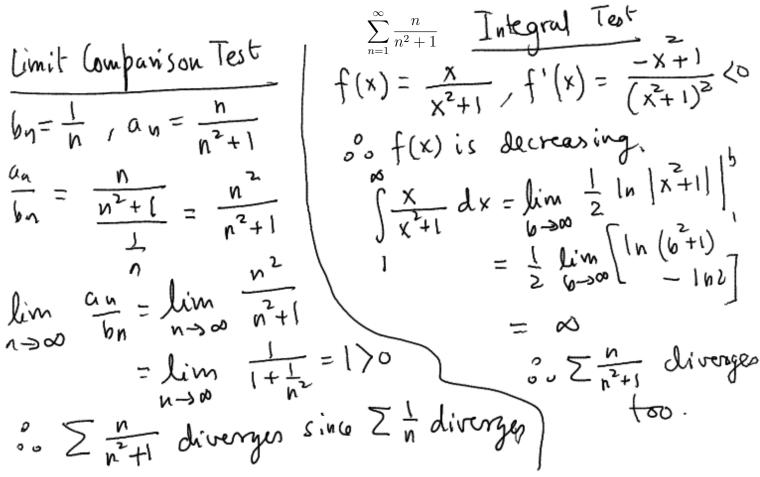


1. Does the following series converge or diverge? Give reasons for your answer.



2. Determine if the geometric series converges or diverges. If it converges, then find its sum.

$$a = 1, \quad r = -\frac{1}{2}$$

$$S = \frac{a}{1-r} = \frac{1}{-(-\frac{1}{2})} = \frac{1}{\frac{3}{2}} = \boxed{\frac{2}{3}}$$