



Calculus 2 Workbook

Telescoping series

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MATH

CONVERGENCE OF A TELESOPING SERIES

- 1. Say whether the telescoping series converges or diverges.

$$\sum_{n=1}^{\infty} (5^n - 5^{n-1})$$

- 2. Say whether the telescoping series converges or diverges.

$$\sum_{n=1}^{\infty} \frac{1}{n(n+2)}$$

- 3. Say whether the telescoping series converges or diverges.

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

- 4. Say whether the telescoping series converges or diverges.

$$\sum_{n=1}^{\infty} \frac{4}{n^2 + 3n + 2}$$

- 5. Say whether the telescoping series converges or diverges.



$$\sum_{n=1}^{\infty} \frac{5}{n+1} - \frac{5}{n+2}$$



SUM OF A TELESOPING SERIES

- 1. Calculate the sum of the telescoping series.

$$\sum_{n=1}^{\infty} \frac{3}{n^2 + n}$$

- 2. Calculate the sum of the telescoping series.

$$\sum_{n=1}^{\infty} \frac{4}{n^2 + 3n + 2}$$

- 3. Calculate the sum of the telescoping series.

$$\sum_{n=1}^{\infty} \frac{6}{n+2} - \frac{6}{n+3}$$



