

Determine whether the series converges or diverges.

$$1. \sum_{k=1}^{\infty} (-1)^{k+1} \frac{3k^2}{7k^2 + k + 1}$$

Determine whether the series converges or diverges.

$$2. \sum_{k=1}^{\infty} (-1)^{k+1} \frac{1}{\sqrt{k}}$$

Determine whether the series converges or diverges.

$$3. \sum_{k=5}^{\infty} \frac{1}{\sqrt{k} - 1}$$

Determine whether the series converges or diverges.

$$4. \sum_{k=1}^{\infty} (-1)^{k+1} \frac{1}{2^k}$$

Determine whether the series converges or diverges.

$$5. \sum_{k=1}^{\infty} \frac{j!}{(j+2)!}$$

Determine whether the series converges or diverges.

$$6. \sum_{j=5}^{\infty} (-1)^j \frac{j!}{(j+1)!}$$

Determine whether the series converges or diverges.

For review, it might be easier to see all problems on one page.

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$$4. \sum_{k=1}^{\infty} (-1)^{k+1} \frac{1}{2^k}$$

$$2. \sum_{k=1}^{\infty} (-1)^{k+1} \frac{1}{\sqrt{k}}$$

$$5. \sum_{k=1}^{\infty} \frac{j!}{(j+2)!}$$

$$3. \sum_{k=5}^{\infty} \frac{1}{\sqrt{k} - 1}$$

$$6. \sum_{j=5}^{\infty} (-1)^j \frac{j!}{(j+1)!}$$