



2. [7 points] For $n \geq 1$, consider the following sequences

- $a_n = (-1)^n + \frac{1}{n}$.
- $b_n = 1 + \frac{(-1)^n}{n}$.
- $c_n = \left(\frac{6}{5}\right)^n$.
- $s_n = \sum_{k=1}^n \frac{1}{k^2}$.

Circle your answers. No justification is needed.

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|------------------------------------|-------|-------|-------|-------|-------|
| 1. Which sequences are bounded? | a_n | b_n | c_n | s_n | None. |
| 2. Which sequences are increasing? | a_n | b_n | c_n | s_n | None. |
| 3. Which sequences are convergent? | a_n | b_n | c_n | s_n | None. |

Solution:

1. a_n b_n s_n
2. c_n s_n
3. b_n s_n