

DIRECTIONS To receive full credit, you must provide complete legible solutions to the following problems in the space provided. No Attached papers. Transfer all your answers to the space provided.

1. Use the Integral Test to determine whether the series is convergent or divergent.

$$\sum_{n=1}^{\infty} \frac{5}{(2n+3)^3}$$

2. Use the Integral Test to determine whether the series is convergent or divergent.

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

3. Determine whether the series is convergent or divergent.

$$1 + \frac{1}{2\sqrt{2}} + \frac{1}{3\sqrt{3}} + \frac{1}{4\sqrt{4}} + \frac{1}{5\sqrt{5}} + \dots$$

4. Find the partial sum S_n of the given series so that the approximate is within 0.001 from the actual sum S . (Round your answers to five decimal places.)

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

Ans _____