

KFUPM SEM II (Term 062) Name: _____ Serial #: _____
MATH 102 Quiz # 6 ID: #: _____ Section #: _____

1. (4-points) Use the comparison test to determine whether the series $\sum_{n=1}^{\infty} \frac{5+2n}{(1+n^2)^2}$ converges or diverges.

2. (4-points) Use the limit comparison test to determine whether the series $\sum_{n=1}^{\infty} \frac{1+n+4n^2}{\sqrt{1+3n^2+9n^6}}$ converges or diverges.

3. (4-points) Use the alternating series test to determine whether the series $\sum_{n=1}^{\infty} (-1)^{n+1} n e^{-\frac{n}{3}}$ converges or divergence.

4. (4-points) Test the series $\sum_{n=1}^{\infty} (-1)^n \frac{(2n+1)^5}{4^n}$ for absolute convergence.

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1. (4-points) Use the comparison test to determine whether the series $\sum_{n=1}^{\infty} \frac{5n^2 + 2n}{(1 + n^2)^2}$ converges or diverges.

2. (4-points) Use the limit comparison test to determine whether the series $\sum_{n=1}^{\infty} \frac{1 - n + 5n^2}{\sqrt{1 + 23n^2 + 4n^6}}$ converges or diverges.

3. (4-points) Use the alternating series test to determine whether the series $\sum_{n=1}^{\infty} (-1)^{n+1} n e^{-\frac{n}{5}}$ converges or divergence.

4. (4-points) Test the series $\sum_{n=1}^{\infty} (-1)^n \frac{(4n+1)^5}{3^n}$ for absolute convergence.