

- Total points: 15 quiz points.

Suppose you have to decide whether the series  $\sum_{n=2}^{\infty} \frac{\sin^2 n}{n}$  converges or diverges.

Which tests can be validly applied to this series? Which ones cannot? CIRCLE YOUR ANSWERS. No need to show work, but feel free to do calculations on this paper (both sides, if necessary).

Grading system: Each part gets 3 points for a correct answer,  $-1$  for a wrong answer, 0 for no answer.

1. The test for divergence.      Applicable    Not applicable
2. The alternating series test.    Applicable    Not applicable
3. The comparison test.            Applicable    Not applicable
4. The limit comparison test.      Applicable    Not applicable
5. The integral test.                Applicable    Not applicable