

Your Name: _____

Your Partner: _____

Quiz 4

Math 253

You have 20 minutes to complete this quiz. When you're finished, first check your work if there is time remaining, then turn it in. You may use a scientific calculator, but not a graphing one, and not any internet-connected device. You may work with one other student. **Enough work should be shown that there is no question about the mathematical process used to obtain your answers.**

1. (8 points) Does the series

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

converge absolutely, conditionally, or not at all?

2. (12 points) Consider the series

$$\sum_{m=1}^{\infty} \frac{(-1)^m}{m \sin^2(m)}.$$

a) (4 points) Show that the series converges.

b) (8 points) Is the convergence absolute or conditional?