

The majority of the credit you receive will be based on the completeness and the clarity of your responses. **Show all of your work and justify your solutions as much as possible.**
This is a 15 minute quiz and has 2 questions, for a total of 10 points

- (5 points) 1. Recall the equation of a parabola is $y^2 = 4px$. Find the equation of the parabola with focus at $(-4, 0)$ and directrix at $x = 2$.

- (5 points) 2. Determine if the sequence $\{a_n\}$ defined by $a_n = \frac{n}{n + \frac{1}{n}}$ converges or diverges. If it converges, find the limit.