Directions: Complete the following problems! Your work should not be done on this paper. Make sure to show all work in order to get full credit. This assignment is due June 30th at 2:05 pm. DON’T BE LATE!

1. \[ \int \left( \frac{x^2 + 2x - 1}{x^3 - x} \right) \, dx \]

2. \[ \int \left( \frac{t^5}{\sqrt{t^2 + 2}} \right) \, dt \]

3. \[ \int \sqrt{5 + 4x - x^2} \, dx \]

4. \[ \lim_{x \to 0} \left( \frac{x}{\tan^{-1}(4x)} \right) \]

5. \[ \lim_{x \to \infty} \frac{\ln x}{1 + \ln x} \]