

In the space provided, write your solution to the following exercises. Show all of your work and not just the final conclusion. Remember to use good notation. The majority of the credit you will receive will be based on the completeness and the clarity of your responses.

(5 points) 1. Evaluate $\lim_{x \rightarrow \frac{\pi}{2}} \sec(x) - \tan(x)$.

(5 points) 2. Find a value(s) c satisfying the conclusion of the Mean Value Theorem for $f(x) = x^3$ on $[-4, 5]$.