**MAT385 Quiz 02, Spring 2025**

**Name:**

1. (2pts) Decide what conclusion, if any, can be reached from the given hypotheses and justify your answer.

   If the car was involved in a hit-and-run, then the paint would be chipped. The paint is chipped.

2. (4pts) Use a proof sequence to show that this argument is valid:

$$(A \to C) \wedge B \wedge (C' \vee B') \to A'$$

3. (4pts) Convert the following argument into a wff, and then prove it:

   Russia was a superior power, and either France was not strong or Napoleon made an error. Napoleon did not make an error, but if the army did not fail then France was strong. Hence, the army failed and Russia was a superior power.

   Use the statement letters

   - R – Russia was a superior power
   - F – France was strong
   - N – Napoleon made an error
   - A – Army failed