A hard-boiled egg is removed from a pot of hot water and set on the table to cool. Let the temperature of the body at time be Assume the change of the temperature of the body satisfies Newton’s law of cooling: where and µ is a constant.

1. Initially, the egg’s temperature is . After an hour its temperature is . Solve the differential equation and hence determine the function in terms of .
2. When will the egg’s temperature be ?