8. (3 points each) A study is published by a group of researchers at a prominent university that
gives a person’s expected annual salary after 10 years of work as a function, \( f \), of the total amount
of money that that person spent on college tuition. (The group counts loans, scholarships, family
contributions, etc., as tuition that a person pays.) The tuition and salary are both measured in
thousands of dollars.

(a) What does the statement \( f(5) = 20 \) mean in practical terms?

(b) What does \( f^{-1}(50) = 20 \) mean in practical terms?

(c) What do high-priced private schools hope is true about the sign of \( f' \)? Explain.

(d) What does the statement \( f'(35) = 3 \) mean in practical terms?

(e) Suppose you are trying to pick a college and your only concern is your expected salary after
10 years of work. If one of the schools you are considering will cost you 80,000 in tuition and
\( f'(80) = -0.5 \), should you choose a more expensive, less expensive, or that particular school?
Justify your answer.