Full Name: ID:

Question 1 Evaluate the following integrals:

a) $\int \frac{1}{(4-9x^2)^{3/2}} \, dx$

b) $\int \sin^{3/2}(x) \cos^3(x) \, dx.$

c) $\int \csc^3 x \, dx$

Question 2 Find all possible values of the number b such that the average value of $f(x) = 4 + 8x - 3x^2$ on the interval $[0, b]$ is equal to 3.