

Show all work clearly and in order. Justify your answers. You have 15 minutes for this quiz.

PROBLEM ONE Find the following limits

(a) $\int \cos^3(3x) \sin^2(3x) dx$

(b) $\int x \sec^2(x) dx$

PROBLEM TWO Compute

$$\int x^3 \sqrt{9 - x^2} dx$$