

Advanced Placement Calculus

Name _____

Copy original problem.

Per _____

Date _____

Convince *me* that **you** understand the concept!*Calculators may be used to check your work**but no credit is associated with any calculator work!*

Chapter 9 Exam

I Compute: $\int_0^3 \frac{x \, dx}{\sqrt{x+1}}$ (15 pts)

II Compute: $\int_0^1 x \sin^{-1} x \, dx$ (30 pts)

III Integrate: $\int \frac{dx}{x^2 + 4x + 8}$ (15 pts)

IV Compute: $\int_1^2 \frac{x^5 - x^3 + 6x^2 - 6}{x^3 + 2x^2} \, dx$ (40 pts)

Extra Credit ----- 5 pts -----

Given a is a constant, compute: $\int \frac{x^3}{x^{a-2}} \, dx$