

~~sample~~  
~~MIDTERM EXAM~~

QSci 292  
johnson  
Sp 95

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INSTRUCTIONS: Do an odd or even number problem from each of the five pairs of problems (labeled P1, P2, etc). Mark the numbers of the five problems you want corrected with a star (\*) on the test form. 10 pts for each correct problem.

Find the integral functions (anti-derivatives)

P1: 1.  $\int \left( \frac{9x+2}{9x^2+4x+15} \right) dx$     2.  $\int \left( \frac{9x+2}{x^2+x-6} \right) dx$

P2: 3.  $\int t e^{-\frac{1}{2}t} dt$     4.  $\int \frac{dt}{5t^2+1}$

P3: 5.  $\int \sin(x) \cdot \cos^5(x) dx$     6.  $\int x \cdot \arctan(x) dx$

P4: 7.  $\int (\theta+1)^2 d\theta$     8.  $\int \ln(w^2) dw$

P5: 9.  $\int \sqrt{t} e^{t\sqrt{t}} dt$     10.  $\int \frac{y dy}{(y^2-1)^{3/2}}$