

Name: _____

Period: _____

Row: ___ Seat: ___

MCS22 EXAM 5 PRACTICE TEST

Do and show all work on this paper. All problems must be answered using calculus techniques. For full credit, final answers must be *exact, in simplest form*, and expressed using *positive exponents only*. Put a box around your final answer.

Part I

Evaluate each integral. Problems 1 – 8 are worth four points each. Problems 9 – 10 are worth seven points each.

| | |
|--|-------------------------------------|
| 1. $\int \sin x \, dx$ | 2. $\int \cos x \, dx$ |
| 3. $\int \sec^2 x \, dx$ | 4. $\int \csc^2 x \, dx$ |
| 5. $\int \sec x \tan x \, dx$ | 6. $\int \csc x \cot x \, dx$ |
| 7. $\int \frac{1}{x} \, dx$ | 8. $\int e^x \, dx$ |
| 9. $\int \left(\pi + \frac{5}{\sqrt[3]{x}} - \frac{10}{x} \right) dx$ | 10. $\int \frac{1-2t^4}{t^3} \, dt$ |

Part II

Evaluate each integral. Do only FIVE (5) out of the SEVEN (7) of the problems in this part. Write "OMIT" below each of the TWO (2) problems that you are omitting. Each problem is worth eleven points.

11. $\int 4x^3 \sqrt{2x^4 - 7} \, dx$

12. $\int \frac{4x+1}{\sqrt[5]{4x^2+2x-3}} \, dx$

13. $\int \frac{e^{\tan x} \sin x \sec x}{\sin 2x} dx$

14. $\int \frac{6y^2 - 18}{(y^3 - 9y)^{3/4}} dy$

15. $\int \cos 7x \sin^5 7x dx$

16. $\int \frac{6x}{2x^2 - 3} dx$

17. $\int \sec^5 3\theta \tan 3\theta d\theta$
