

Integration Practice**Math 232**

You can earn participation points in class for being able to solve these integrals. (Please note that this means knowing how to solve them when you walk in the door, not figuring them out slowly at the board.)

At least two of these problems will appear on the final.

1. $\int \cos^7 x \, dx$

11. $\int (e^{3 \ln x})^2 \, dx$

21. $\int \frac{\arccos x}{\sqrt{1-x^2}} \, dx$

2. $\int x \sec x \tan x \, dx$

12. $\int \frac{\ln 2x}{x^2} \, dx$

22. $\int \sin^{-1} x \, dx$

3. $\int \cot^6 x \, dx$

13. $\int x^3 \sin x \, dx$

23. $\int 2\pi x(8-x^{\frac{3}{2}}) \, dx$

4. $\int \csc^4 x \cot^4 x \, dx$

14. $\int_0^1 \ln(1-3x) \, dx$

24. $\int_0^{\frac{\pi}{2}} \sin^2 x \cos^5 x \, dx$

5. $\int \sin^2 x \cos^2 x \, dx$

15. $\int \frac{\sqrt{x}}{1-x\sqrt{x}} \, dx$

25. $\int e^x \cos 2x \, dx$

6. $\int \sin(\ln x) \, dx$

16. $\int \sin^4 3x \, dx$

26. $\int \ln\left(\frac{x^3}{2x+1}\right) \, dx$

7. $\int \frac{\sin^3 x}{\sqrt{\cos x}} \, dx$

17. $\int (\ln x)^3 \, dx$

27. $\int \csc^3 x \, dx$

8. $\int \tan^3 x \sec^3 x \, dx$

18. $\int (x \ln x)^{-1} \, dx$

28. $\int_1^2 \frac{x^2+3x+7}{\sqrt{x}} \, dx$

9. $\int \tan x \ln(\cos x) \, dx$

19. $\int \csc 3x \, dx$

29. $\int (\sin x + e^x)^2 \, dx$

10. $\int_1^3 \frac{e^{\frac{1}{x}}}{x^2} \, dx$

20. $\int x^3 \cos x^2 \, dx$

30. $\int x(x+5)^{\frac{7}{2}} \, dx$