

Hints:

#4. Powers of trig functions

#6. Use  $u$ -sub with  $u = 2x + 1$ .

#8. Rewrite  $\sin x \cos x$  as  $\frac{1}{2} \sin(2x)$

#14 Use by parts with  $u = \ln(1 + x^2)$ ,  $dv = dx$

#16. Use trig sub

#19. Rewrite  $e^{x+e^x}$  as  $e^x e^{e^x}$

#22. Try two different  $u$ -subs. (1) Let  $u = \ln x$ . (2) Let  $u = 1 + (\ln x)^2$ . Only one works.  
From the homework list you are to turn in the following problems.

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7.5 #4 Evaluate  $\int \frac{\sin^3 x}{\cos x} dx$

7.5 #6 Evaluate  $\int_0^1 \frac{x}{(2x+1)^3} dx$

7.5 #8 Evaluate  $\int x \sin x \cos x dx$

7.5 #14 Evaluate  $\int \ln(1+x^2) dx$

7.5 #16 Evaluate  $\int_0^{\sqrt{2}/2} \frac{x^2}{\sqrt{1-x^2}} dx$

7.5 #18 Evaluate  $\int_1^4 \frac{e^{\sqrt{t}}}{\sqrt{t}} dt$

7.5 #19 Evaluate  $\int e^{x+e^x} dx$

7.5 #22 Evaluate  $\int \frac{\ln x}{x\sqrt{1-(\ln x)^2}} dx$