

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.

7.5 #4 Evaluate $\int \frac{\sin^3 x}{\cos x} dx$ $\frac{1}{2} \cos^2 x - \ln |\cos x| + C$

7.5 #6 Evaluate $\int_0^1 \frac{x}{(2x+1)^3} dx$ $\frac{1}{18}$

7.5 #8 Evaluate $\int x \sin x \cos x dx$ $-\frac{1}{4} t \cos(2t) + \frac{1}{8} \sin(2t) + C$

7.5 #14 Evaluate $\int \ln(1+x^2) dx$ $x \ln |1+x^2| - 2x + 2 \tan^{-1} x + C$

7.5 #16 Evaluate $\int_0^{\sqrt{2}/2} \frac{x^2}{\sqrt{1-x^2}} dx$ $\frac{\pi}{8} - \frac{1}{4}$

7.5 #18 Evaluate $\int_1^4 \frac{e^{\sqrt{t}}}{\sqrt{t}} dt$ $2e^2 - 2e$

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

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