The following are questions/issues to help you to organize your thoughts. The answers are to be found by looking at the work we did in class.

1) What kinds of integrals are good candidates for a parts?

2) When you’re doing a parts, how do you choose $u$? How do you get $dv$?

3) Which of these is a good candidate for a parts?

   a) $\int e^x \cos(x) \, dx$  
   b) $\int \frac{1}{x^2 \ln x} \, dx$  
   c) $\int x^2 e^{-x} \, dx$  
   d) $\int \sinh(x) \, dx$  
   e) $\int x^2 \sin(x) \, dx$  
   f) $\int \sec^2(x) \, dx$  
   g) $\int \frac{\ln x}{x^2} \, dx$  
   h) $\int x \tan^{-1}(x) \, dx$

4) Referring back to 3), if you said an integral is a good candidate for a parts, what would you choose as $u$?

5) Why are the following good candidates for a parts, even though they are not products?

   a) $\int \frac{1}{\sin^{-1} x} \, dx$  
   b) $\int \ln(x) \, dx$  
   c) $\int \arctan(x) \, dx$

6) If you see a $\ln(x)$ in an integral, how do you deal with it?

7) How does a recursion formula work?