PROBLEM BANK FOR WEEKLY WORK 2

Weekly work 2 will consist of one problem from this list (or a **very slightly** modified version of one of these problems).

(1) Compute the integral
$$\int \sin^4 x \cos^2 x \, dx.$$

(2) Compute the integral
$$\int x^6 \ln x \, dx.$$

(3) Use integration by parts and possibly other techniques to compute the integral
$$\int \arctan x \, dx.$$

[*Hint: This can be done with a process similar to how we computed $\int \ln x \, dx$ in class.*]