Practice Assignment 2A

1. Find the integral $\int \frac{x^3+2x^2+3}{x}dx$.

2. Integrate the function $\frac{1}{2x+2x\log x}$.

3. Find the integral of $\cos x \cos 2x \cos 3x$.

4. Integrate $\frac{x^3}{1-x^8}$

5. Integrate the rational function, $\frac{2x}{(x-1)^2(x+2)}$.

6. Integrate $\cot^{-1}x$.

7. Integrate the function $\sqrt{x^2+4x+8}$.

8. Evaluate the definite integral $\int_{\frac{\pi}{6}}^{\frac{\pi}{4}} \sec x \, dx$.

9. Evaluate the following integral using substitution $\int_0^1 \frac{x^2}{x^3+1}dx$.

10. By using the properties of definite integrals, evaluate the integral $\int_0^{\frac{\pi}{2}} \frac{\sin^3 x dx}{\sin^3 x+\cos^3 x}$