# HW 6 Due : Friday, Oct. 4

1

$$\text{(7.2 Problem 26)} \quad \int_0^{\frac{\pi}{6}} e^x \sin(x)dx$$

2

$$\text{(7.2 Problem 40)} \quad \int \sin(\sqrt{x})dx$$

Hint:make an substitution first and then use integration by parts)

3

$$\int \arcsin(2x)dx$$

Hint: **Try** $u = \arcsin(2x)$ **and** $dv = dx$. **Recall that** $\frac{d}{dx}(\arcsin(ax)) = \frac{a}{\sqrt{1-a^2x^2}}$

4

$$\text{(7.3 Problem 36)} \quad \int \frac{x^4+3}{x^2-4x+3}dx$$

Hint: Do long division first. Then do partial fraction.

5

$$\text{(7.3 Problem 18)} \quad \int \frac{4x^2-x-1}{(x+1)^2(x-3)}dx$$

Hint: Try partial fraction $\frac{4x^2-x-1}{(x+1)^2(x-3)} = \frac{A}{x-3} + \frac{B}{x+1} + \frac{C}{(x+1)^2}$

Extra Practice Problems (These are extra problems for you to practice and you can check the answers at the back of the book)

Sec 7.2 Problem 25, 33, 39

Sec 7.3 Problem 17, 33, 35, 45