

**Discussion Problems 6 (Thu., Nov. 2)**

1. Compute:

(a)  $\int \frac{-2x + 8}{x^3 + 4x} dx$

(b)  $\int \frac{x}{x^2 - x - 6} dx$

(c)  $\int \frac{x^2}{x^2 - x + 1} dx$

(d)  $\int \frac{x^3}{(1 + x^2)^4} dx$

2. Compute:

(a)  $\int \frac{1}{x^{1/3} - 4x} dx$

(b)  $\int \frac{1}{\sqrt{x}(x + 4)(\sqrt{x} - 1)^2} dx$

(c)  $\int_0^{\pi/2} \frac{\cos x}{(2 + \sin x)(1 + \sin x)} dx$