Problem Set 12
7.3: Trigonometric Substitution

Please indicate the members who are present. Also indicate the group coordinator.

Group Number:	
Members:	

Problem 1

Write the form of the partial fraction decomposition of

$$\frac{4 - 2x}{x^2(x^2 + 4)^3(x^2 - 4)^2(x^2 + x + 1)^2}.$$

Problem 2

Find the integral $\displaystyle\int \frac{3x^3 + 4x^2 + 2}{x^4 + x^2}\,dx.$

Problem 3

Find the integral $\displaystyle\int \frac{2x^3 + 13}{x^3 - x^2 + 4x - 4}\,dx.$

Problem 4

Find the integral $\displaystyle\int \frac{\cos x}{(2 - \cos^2 x)\sin x}\,dx.$

Problem 5

Find the integral $\displaystyle\int \frac{1}{\cos x + \sin x}\,dx.$