

Homework # 10

Find the following integrals:

a) $\int \frac{x^2}{x^2 + 9} dx$;

b) $\int \frac{1}{x^2 + 6x + 13} dx$, (Hint: Complete the square in the denominator)

c) $\int \frac{5}{x^2 + 3x - 4} dx$;

d) $\int \frac{x^2 + 3x - 4}{x^3 - 4x^2 + 4x} dx$;

e) $\int_1^2 \frac{dx}{(x^2 + 1)(x^2 + 4)}$;

f) $\int \frac{dx}{x(x^2 + 2x + 5)}$;

g) $\int_0^{\pi/6} \frac{5 \cos x}{\sin^2 x + 3 \sin x - 4} dx$.