

136.170 - problem worksheet n.9

1. Evaluate the following integrals

(a) $\int \sin 2x \sin 4x \, dx$ _____

(b) $\int \cos 7x \sin x \, dx$

(c) $\int \cos(x+1) \cos(3x+3) \, dx$

2. Evaluate the integral.

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

(b) $\int_0^2 x^3 \sqrt{x^2+4} \, dx$

(c) $\int \frac{dx}{x^2 \sqrt{5-x^2}}$

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

$$(e) \int \sqrt{4-(x-1)^2} dx$$

3. Evaluate the following integrals:

$$(a) \int_0^2 \frac{x^3 + x^2 - 12x + 1}{x^2 + x - 12} dx$$

$$(b) \int \frac{1}{x^3 + x^2 - 2x} dx$$

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