

HOMEWORK 6

1. (30 points)

Compute the followong integrals:

(a) $\int [\frac{1}{2x-1} - \frac{1}{2x+1}] dx.$

(b) $\int \frac{\sin(x)}{1-\cos(x)} dx.$

(c) $\int \frac{1}{x^2+9} dx.$

2. (35 points)

Compute the followong integrals:

(a) $\int \frac{x}{e^x} dx.$

(b) $\int e^{3x} \sin(2x) dx.$

(c) $\int (x^3 - 2x - 5) \sin(2x) dx.$

3. (35 points)

Compute the followong integrals:

(a) $\int \frac{5x}{2x^3+6x^2} dx.$

(b) $\int \frac{x^4-x^3-x-1}{x^3-x^2} dx.$

(c) $\int \frac{x^3+x^2+x+2}{x^4+3x^2+2} dx.$