

02/01

## Worksheet #1

1) Compute

a)  $\int (3x+2)e^{7-x}$

b)  $\int x^5 e^{x^2} dx$

c)  $\int (x+3)\ln(2-x) dx$

d)  $\int \sqrt{x} \ln(\sqrt{x}) dx$

e)  $\int_2^1 t e^{-0.3t} dt$

f)  $\int_2^4 t \sqrt{t-1} dt$

2) Determine if the following integrals diverge or converge. If they later, find also the value.

a)  $\int_0^1 \ln(x) dx$

b)  $\int_1^{+\infty} x e^{-x^2} dx$

c)  $\int_1^{+\infty} x e^{-x} dx$

d)  $\int_{-3}^2 \frac{dx}{x^2-9}$