Worsheet 07

1. Determine for each integral whether it's convergent or divergent. Compute the convergent integrals.

(a) $\int_2^\infty \frac{1}{x \ln x} dx$

(b) $\int_{-\infty}^0 e^{4x} dx$

2. Solve the following differential equations.

(a) $\frac{dy}{dx} = 2y, y(0) = 0$

(b) $\frac{dy}{dx} = e^{x+y}(e^x + 1)^{-1}$