

1) Find the solution of the following integral. (2 points)

$$\int_0^{\frac{\pi}{2}} \cos(\sqrt{x}) dx \quad (1)$$

hint: Use the substitution $x = u^2$, then use the method of integration by parts in order to find the solution.

2) Evaluate the following integral.

$$\int x(3^x + \ln(x))dx \quad (2)$$