National University of Computer and Emerging Sciences

Homework 08

Q.1 Evaluate the integral

$$\int \sqrt{1 + \cos\frac{\pi x}{2}}\ dx.$$

Q.2 Evaluate the integral

$$\int \frac{\sqrt{x-2}}{\sqrt{x-1}}\,dx.$$

Q.3 Solve the initial value problem

$$(x^2+1)^2\frac{dy}{dx} = \sqrt{x^2+1}\ ; y(0) = 1$$

Q.4 Find the area of the region in the first quadrant that is enclosed by the coordinate axes and the curve $y = \frac{\sqrt{9-x^2}}{3}$.