

Integ. Apps – 300

■ The area enclosed by the curves $y = \sin x$, $y = \cos x$ and $y = 0$ where x is a quadrant I angle can be expressed by which of the following:

I.
$$\int_0^{\pi/4} (\cos x - \sin x) dx$$

II.
$$\int_0^{\pi/4} \sin x dx + \int_{\pi/4}^{\pi/2} \cos x dx$$

III.
$$\int_0^{\sqrt{2}/2} (\cos^{-1} x - \sin^{-1} x) dx$$

- A) I only
C) I and III only

- B) II only
D) II and III only