

Problem 4.

$\cos^{-1}(-x)$ ,  $|x| \leq 1$  is equal to

- (a)  $-\cos^{-1}x$                       (b)  $\cos^{-1}x$   
(c)  $\frac{\pi}{2} - \cos^{-1}x$                 (d)  $\frac{\pi}{2} + \sin^{-1}x$

We know that,  $\cos^{-1}(-x) = \pi - \cos^{-1}(x)$ .

Also,  $\cos^{-1}x + \sin^{-1}x = \pi/2$

$$\therefore \cos^{-1}x = \pi/2 - \sin^{-1}x$$

$$\therefore \cos^{-1}(-x) = \pi - (\pi/2 - \sin^{-1}x) = \frac{\pi}{2} + \sin^{-1}x = .$$