

Ninth Problem of the Week, due Thursday 04/18 11:59pm

Let x and y be real numbers such that

$$\log \sin x + \log \cos x = -1,$$

$$\log(\sin x + \cos x) = -1 + \frac{1}{2} \log y,$$

where “log” denotes the common (base-10) logarithm.

Solve for y .