

MAA Metro NY  
November 2025, Problem of the Month

Prove by elementary means, using trigonometric identities, that

- (a)  $\cos(1^\circ)$  is irrational, and
- (b)  $\cos\left(\frac{1^\circ}{n}\right)$  is irrational, where  $n$  is a positive integer.

Computer or AI assisted/generated solutions will not be accepted.