

Exercise 127

Evaluate the following functional values.

$$\sin\left(\frac{\pi}{12}\right)$$

Solution

Use the half-angle formula for sine.

$$\begin{aligned}\sin\left(\frac{\pi}{12}\right) &= \sqrt{\frac{1 - \cos\left(\frac{\pi}{6}\right)}{2}} \\ &= \sqrt{\frac{1 - \left(\frac{\sqrt{3}}{2}\right)}{2}} \\ &= \frac{\sqrt{2 - \sqrt{3}}}{2}\end{aligned}$$