

練習問題 1

問題 1. 次の角を弧度 (ラジアン) で表せ。

$$10^\circ = \frac{\pi}{18}, \quad 20^\circ = \frac{\pi}{9}, \quad 30^\circ = \frac{\pi}{6}, \quad 40^\circ = \frac{2\pi}{9},$$

$$60^\circ = \frac{\pi}{3}, \quad 100^\circ = \frac{5\pi}{9}, \quad 135^\circ = \frac{3\pi}{4}, \quad 330^\circ = \frac{11\pi}{6}$$

問題 2. 弧度法で表された次の角を度数法 ($^\circ$) を用いて表せ。

$$\begin{array}{llll} \frac{\pi}{10} = 18^\circ, & \frac{\pi}{5} = 36^\circ, & \frac{\pi}{4} = 45^\circ, & \frac{\pi}{3} = 60^\circ, \\ \frac{\pi}{2} = 90^\circ, & \frac{2\pi}{3} = 120^\circ, & \frac{3\pi}{4} = 135^\circ, & \frac{\pi}{8} = 22.5^\circ \end{array}$$

問題 3. 次の値を求めよ。

$$(1) \cos 60^\circ = \frac{1}{2}, \quad \sin 60^\circ = \frac{\sqrt{3}}{2} \quad (2) \cos 120^\circ = -\frac{1}{2}, \quad \sin 120^\circ = \frac{\sqrt{3}}{2}$$

$$(3) \cos 240^\circ = -\frac{1}{2}, \quad \sin 240^\circ = -\frac{\sqrt{3}}{2} \quad (4) \cos 300^\circ = \frac{1}{2}, \quad \sin 300^\circ = -\frac{\sqrt{3}}{2}$$

$$(5) \cos \frac{\pi}{4} = \frac{1}{\sqrt{2}}, \quad \sin \frac{\pi}{4} = \frac{1}{\sqrt{2}} \quad (6) \cos \frac{3\pi}{4} = -\frac{1}{\sqrt{2}}, \quad \sin \frac{3\pi}{4} = \frac{1}{\sqrt{2}}$$

$$(7) \cos \frac{5\pi}{4} = -\frac{1}{\sqrt{2}}, \quad \sin \frac{5\pi}{4} = -\frac{1}{\sqrt{2}} \quad (8) \cos \frac{7\pi}{4} = \frac{1}{\sqrt{2}}, \quad \sin \frac{7\pi}{4} = -\frac{1}{\sqrt{2}}$$