

1 $0 \leq \theta < 2\pi$ のとき、次の方程式を解け。

- (1) $\sin \theta = \frac{\sqrt{3}}{2}$ (2) $\cos \theta = \frac{1}{2}$ (3) $\tan \theta = 1$
 (4) $2\sin \theta = -1$ (5) $2\cos \theta = \sqrt{3}$ (6) $\sqrt{3}\tan \theta - 1 = 0$
 (7) $\sin \theta = -\frac{\sqrt{3}}{2}$ (8) $\cos \theta = \frac{1}{\sqrt{2}}$ (9) $\tan \theta = -1$
 (10) $\sin \theta = \frac{1}{\sqrt{2}}$ (11) $\cos \theta = -\frac{1}{2}$

解答

- (1) $\theta = \frac{\pi}{3}, \frac{2}{3}\pi$ (2) $\theta = \frac{\pi}{3}, \frac{5}{3}\pi$ (3) $\theta = \frac{\pi}{4}, \frac{5}{4}\pi$
 (4) $\theta = \frac{7}{6}\pi, \frac{11}{6}\pi$ (5) $\theta = \frac{\pi}{6}, \frac{11}{6}\pi$ (6) $\theta = \frac{\pi}{6}, \frac{7}{6}\pi$
 (7) $\theta = \frac{4}{3}\pi, \frac{5}{3}\pi$ (8) $\theta = \frac{\pi}{4}, \frac{7}{4}\pi$ (9) $\theta = \frac{3}{4}\pi, \frac{7}{4}\pi$
 (10) $\theta = \frac{\pi}{4}, \frac{3}{4}\pi$ (11) $\theta = \frac{2}{3}\pi, \frac{4}{3}\pi$

2 $0 \leq \theta < 2\pi$ のとき、次の方程式を解け。

- (1) $\sin\left(\theta - \frac{\pi}{3}\right) = -\frac{\sqrt{3}}{2}$ (2) $\cos\left(\theta + \frac{\pi}{6}\right) = \frac{1}{\sqrt{2}}$
 (3) $\tan\left(\theta + \frac{\pi}{4}\right) = \frac{1}{\sqrt{3}}$ (4) $\cos\left(\theta - \frac{\pi}{6}\right) = -1$
 (5) $\sin\left(\theta - \frac{\pi}{3}\right) = \frac{1}{2}$ (6) $\cos\left(\theta + \frac{\pi}{4}\right) = \frac{\sqrt{3}}{2}$
 (7) $\sin\left(\theta + \frac{\pi}{4}\right) = -\frac{1}{2}$ (8) $\cos\left(\theta + \frac{\pi}{3}\right) = \frac{\sqrt{3}}{2}$

- 解答 (1) $\theta = 0, \frac{5}{3}\pi$ (2) $\theta = \frac{\pi}{12}, \frac{19}{12}\pi$ (3) $\theta = \frac{11}{12}\pi, \frac{23}{12}\pi$ (4) $\theta = \frac{7}{6}\pi$
 (5) $\theta = \frac{\pi}{2}, \frac{7}{6}\pi$ (6) $\theta = \frac{19}{12}\pi, \frac{23}{12}\pi$ (7) $\theta = \frac{11}{12}\pi, \frac{19}{12}\pi$ (8) $\theta = \frac{3}{2}\pi, \frac{11}{6}\pi$

3 $0 \leq \theta < 2\pi$ のとき、次の方程式を解け。

- (1) $\sin\left(2\theta + \frac{\pi}{6}\right) = \frac{1}{\sqrt{2}}$ (2) $\tan\left(2\theta - \frac{\pi}{3}\right) = -\sqrt{3}$
 (3) $\cos\left(2\theta - \frac{\pi}{3}\right) = \frac{1}{2}$ (4) $\sin\left(2\theta + \frac{\pi}{6}\right) = \frac{1}{\sqrt{2}}$
 (5) $\sin\left(3\theta + \frac{\pi}{4}\right) = \frac{1}{\sqrt{2}}$ (6) $\tan\left(2\theta - \frac{\pi}{3}\right) = \sqrt{3}$

- 解答 (1) $\theta = \frac{\pi}{24}, \frac{7}{24}\pi, \frac{25}{24}\pi, \frac{31}{24}\pi$ (2) $\theta = 0, \frac{\pi}{2}, \pi, \frac{3}{2}\pi$
 (3) $\theta = 0, \frac{\pi}{3}, \pi, \frac{4}{3}\pi$ (4) $\theta = \frac{\pi}{24}, \frac{7}{24}\pi, \frac{25}{24}\pi, \frac{31}{24}\pi$
 (5) $\theta = 0, \frac{\pi}{6}, \frac{2}{3}\pi, \frac{5}{6}\pi, \frac{4}{3}\pi, \frac{3}{2}\pi$ (6) $\theta = \frac{\pi}{3}, \frac{5}{6}\pi, \frac{4}{3}\pi, \frac{11}{6}\pi$