sicolo

answers

(1) $\tan\theta = -1$
$(-\frac{\pi}{2} \leqq \theta \leqq \frac{\pi}{2})$
$\theta = -\frac{\pi}{4}$

(2) $\sin(-\frac{\pi}{3})$
$= -\frac{\sqrt{3}}{2}$

(3) $\sin(-\frac{\pi}{6})$
$= -\frac{1}{2}$

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

(5) $\cos\frac{4\pi}{3}$
$= -\frac{1}{2}$

(6) $\cos\theta = 0$
$(-\pi \leqq \theta \leqq 0)$
$\theta = -\frac{\pi}{2}$

(7) $\cos\theta = \frac{\sqrt{2}}{2}$
$(0 \leqq \theta \leqq \pi)$
$\theta = \frac{\pi}{4}$

(8) $\cos\frac{3\pi}{2}$
$= 0$

(9) $\sin\frac{\pi}{2}$
$= 1$

(10) $\log_{125\sqrt{5}} 625$
$= \frac{8}{7}$

(11) $\cos(-\pi)$
$= -1$

(12) $\cos\theta = \frac{\sqrt{3}}{2}$
$(0 \leqq \theta \leqq \pi)$
$\theta = \frac{\pi}{6}$

(13) $\cos\theta = 0$
$(0 \leqq \theta \leqq \pi)$
$\theta = \frac{\pi}{2}$

(14) $\sin\theta = -\frac{1}{2}$
$(\frac{3\pi}{2} \leqq \theta \leqq \frac{5\pi}{2})$
$\theta = \frac{11\pi}{6}$

(15) $\cos\frac{7\pi}{4}$
$= \frac{\sqrt{2}}{2}$

(16) $\sin\frac{7\pi}{4}$
$= -\frac{\sqrt{2}}{2}$

(17) $\log_{\frac{1}{\sqrt{3}}} 27$
$= -6$

(18) $\log_5 \frac{\sqrt{5}}{25}$
$= -\frac{3}{2}$

(19) $\sin\theta = \frac{1}{2}$
$(-\frac{\pi}{2} \leqq \theta \leqq \frac{\pi}{2})$
$\theta = \frac{\pi}{6}$

(20) $\cos\theta = 1$
$(-\pi \leqq \theta \leqq 0)$
$\theta = 0$

(21) $\log_{9\sqrt{3}} \frac{1}{3}$
$= -\frac{2}{5}$

(22) $\log_{\frac{1}{16}} \frac{4}{\sqrt{2}}$
$= -\frac{3}{8}$

(23) $\cos\theta = -\frac{\sqrt{3}}{2}$
$(-\pi \leqq \theta \leqq 0)$
$\theta = -\frac{5\pi}{6}$

(24) $\sin\theta = \frac{1}{2}$
$(\frac{3\pi}{2} \leqq \theta \leqq \frac{5\pi}{2})$
$\theta = \frac{13\pi}{6}$

(25) $\sin\frac{\pi}{2}$
$= 1$

(26) $\sin\frac{3\pi}{4}$
$= \frac{\sqrt{2}}{2}$

(27) $\cos\theta = \frac{\sqrt{2}}{2}$
$(\pi \leqq \theta \leqq 2\pi)$
$\theta = \frac{7\pi}{4}$

(28) $\cos\frac{5\pi}{6}$
$= -\frac{\sqrt{3}}{2}$

(29) $\tan\theta = \frac{\sqrt{3}}{3}$
$(\frac{\pi}{2} \leqq \theta \leqq \frac{3\pi}{2})$
$\theta = \frac{7\pi}{6}$

(30) $\sin\theta = \frac{\sqrt{2}}{2}$
$(\frac{\pi}{2} \leqq \theta \leqq \frac{3\pi}{2})$
$\theta = \frac{3\pi}{4}$

(31) $\log_{\frac{\sqrt{5}}{25}} 625$
$= -\frac{8}{3}$

(32) $\cos\theta = -\frac{1}{2}$
$(\pi \leqq \theta \leqq 2\pi)$
$\theta = \frac{4\pi}{3}$

(33) $\tan\theta = \sqrt{3}$
$(-\frac{\pi}{2} \leqq \theta \leqq \frac{\pi}{2})$
$\theta = \frac{\pi}{3}$

(34) $\tan\theta = \frac{\sqrt{3}}{3}$
$(-\frac{\pi}{2} \leqq \theta \leqq \frac{\pi}{2})$
$\theta = \frac{\pi}{6}$

(35) $\tan\theta = -\sqrt{3}$
$(-\frac{\pi}{2} \leqq \theta \leqq \frac{\pi}{2})$
$\theta = -\frac{\pi}{3}$

(36) $\tan(-\frac{3\pi}{4})$
$= 1$

(37) $\tan\theta = \sqrt{3}$
$(\frac{\pi}{2} \leqq \theta \leqq \frac{3\pi}{2})$
$\theta = \frac{4\pi}{3}$

(38) $\log_2 16$
$= 4$

(39) $\cos(-\frac{\pi}{3})$
$= \frac{1}{2}$

(40) $\tan\theta = -1$
$(\frac{\pi}{2} \leqq \theta \leqq \frac{3\pi}{2})$
$\theta = \frac{3\pi}{4}$