

Additional Problem Assignment 4

1. For each angle find the reference angle in the first quadrant (positive acute angle).

(a) $\frac{4\pi}{7}$

(b) $\frac{9\pi}{4}$

(c) $-\frac{3\pi}{5}$

(d) $-\frac{13\pi}{6}$

2. Given that $\sin\left(\frac{5\pi}{12}\right) = \frac{\sqrt{6} + \sqrt{2}}{4}$ and $\cos\left(\frac{5\pi}{12}\right) = \frac{\sqrt{6} - \sqrt{2}}{4}$. Find the exact value (i.e. don't use your calculators) of

(a) $\sin\left(\frac{7\pi}{12}\right)$

(b) $\cos\left(\frac{13\pi}{12}\right)$

(c) $\sin\left(-\frac{5\pi}{12}\right)$

(d) $\cos\left(-\frac{23\pi}{12}\right)$