

Additional Problem Assignment 4

- For each angle find the reference angle in the first quadrant (express in degrees).
 - -130°
 - 220°
 - 530°
- For each angle find the reference angle in the first quadrant (express in radians).
 - $\frac{4\pi}{7}$
 - $\frac{9\pi}{4}$
 - $-\frac{3\pi}{5}$
 - $-\frac{13\pi}{6}$
- Express each of the following in terms of reference angles (i.e. $\sin(230^\circ) = -\sin(50^\circ)$).
 - $\sin(420^\circ)$
 - $\cos\left(\frac{11\pi}{15}\right)$
 - $\tan(-110^\circ)$
- 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
 - $\sin\left(\frac{\pi}{12}\right)$ (Hint: Think about complementary angles.)
 - $\sin\left(\frac{7\pi}{12}\right)$
 - $\cos\left(\frac{13\pi}{12}\right)$
 - $\sin\left(-\frac{5\pi}{12}\right)$
 - $\cos\left(-\frac{23\pi}{12}\right)$