Name: Key Hour: _____ Date: _____

Honors – Finding Exact Trig Values (RADIANS) Notes

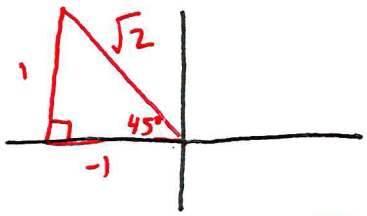
Last week we found the exact trig values of Sine, Cosine and Tangent for an angle measured in degrees. What if the given angle is in radians?!

Convert the measure to degrees!

Examples: Find the *exact* values for the sine, cosine and tangent of the given angles. Be sure to state each reference angle and sketch the reference triangle.

1) $\frac{3\pi}{4} \cdot \frac{180}{\pi} = 135°$

$180° - 135° = 45°$



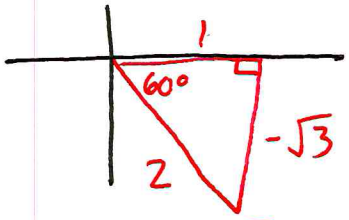
$\sin(\frac{3\pi}{4}) = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

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

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

2) $\frac{5\pi}{3} \cdot \frac{180}{\pi} = 300°$

$360° - 300° = 60°$



$\sin(\frac{5\pi}{3}) = \frac{-\sqrt{3}}{2}$

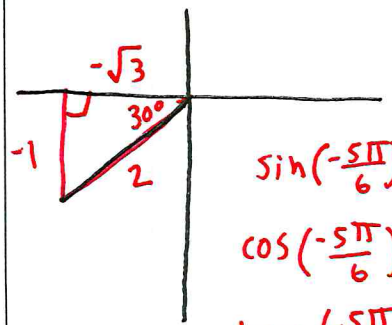
$\cos(\frac{5\pi}{3}) = \frac{1}{2}$

$\tan(\frac{5\pi}{3}) = -\sqrt{3}$

3) $-\frac{5\pi}{6} \cdot \frac{180}{\pi} = -150°$

$-150° + 360° = 210°$

$210° - 180° = 30°$



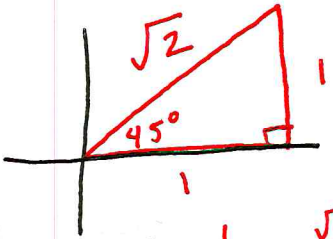
$\sin(\frac{-5\pi}{6}) = \frac{-1}{2}$

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

$\tan(\frac{-5\pi}{6}) = \frac{-1}{-\sqrt{3}} = \frac{\sqrt{3}}{3}$

4) $-\frac{7\pi}{4} \cdot \frac{180}{\pi} = -315°$

$-315° + 360° = 45°$



$\sin(\frac{-7\pi}{4}) = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

$\cos(\frac{-7\pi}{4}) = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

$\tan(\frac{-7\pi}{4}) = 1$