Algebra 2 Bellwork Thursday, May 26, 2016

1. Give the exact value of each.

a) $\cot\frac{19\pi}{3}$ b) $\csc 1410°$ c) $\sec\left(\frac{-13\pi}{2}\right)$

2. Find each to the nearest hundredth:

a) $\sec\left(\frac{8\pi}{7}\right)$ b) $\cot(-1723°)$ c) $\csc\left(\frac{-\pi}{12}\right)$

3. Given $\csc x = \frac{7}{4}$ find the remaining five trig functions as ratios. Simplify and rationalize all denominators when necessary.

Algebra 2 Bellwork Thursday, May 26, 2016 ANSWERS

1. Give the exact value of each.

a) $\cot\frac{19\pi}{3}$ b) $\csc 1410°$ c) $\sec\left(\frac{-13\pi}{2}\right) = \sec\left(\frac{3\pi}{2}\right)$

$= \cot\frac{\pi}{3} = \frac{x}{y} = \frac{\frac{1}{2}}{\frac{\sqrt{3}}{2}}$

$= \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$

$= \csc 330$

$= \frac{1}{\sin 330} = \frac{1}{-1/2} = -2$

$= \frac{1}{\cos\left(\frac{3\pi}{2}\right)} = \frac{1}{0}$

undefined

2. Find each to the nearest hundredth:

a) $\sec\left(\frac{8\pi}{7}\right)$ b) $\cot(-1723°)$ c) $\csc\left(\frac{-\pi}{12}\right)$

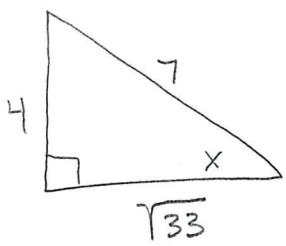
$= \frac{1}{\cos\left(\frac{8\pi}{7}\right)} = -1.11$

$= \frac{1}{\tan(-1723)}$

$= 0.23$

$= \frac{1}{\sin\left(\frac{-\pi}{12}\right)} = -3.86$

3. Given $\csc x = \frac{7}{4}$ find the remaining five trig functions as ratios. Simplify and rationalize all denominators when necessary.



$\sin x = \frac{4}{7}$

$\cos x = \frac{\sqrt{33}}{7}$

$\sec x = \frac{7}{\sqrt{33}} = \frac{7\sqrt{33}}{33}$

$\tan x = \frac{4}{\sqrt{33}} = \frac{4\sqrt{33}}{33}$

$\cot x = \frac{\sqrt{33}}{4}$