Name_____

Fundamental Trig Identities

Date_____ Period____

Use identities to find the value of each expression.

1) If $\sin\theta = -0.93$, find $\cos\left(\theta - \frac{\pi}{2}\right)$.

2) If $\tan(-\theta) = -1.48$, find $\cot\left(\frac{\pi}{2} - \theta\right)$.

3) If $\cos\left(\theta - \frac{\pi}{2}\right) = -0.52$, find $\sin\theta$.

4) If $\sin\theta = 0.16$, find $\cos\left(\frac{\pi}{2} - \theta\right)$.

5) If $\sec\theta = 4.45$, find $\csc\left(\frac{\pi}{2} - \theta\right)$.

6) If $\sin\left(\theta - \frac{\pi}{2}\right) = -0.22$, find $\cos(-\theta)$.

7) If $\tan\theta = -0.87$, find $\cot\left(\frac{\pi}{2} - \theta\right)$.

8) If $\csc\left(\frac{\pi}{2} - \theta\right) = -1.11$, find $\sec(-\theta)$.

9) Find $\sin\theta$ and $\sec\theta$
if $\tan\theta = 3$ and $\cos\theta < 0$.

10) Find $\csc\theta$ and $\sin\theta$
if $\tan\theta = \frac{7}{4}$ and $\sin\theta < 0$.

11) Find $\cos\theta$ and $\csc\theta$
if $\tan\theta = -\frac{3}{2}$ and $\sin\theta < 0$.

12) Find $\csc\theta$ and $\sec\theta$
if $\cot\theta = \frac{3}{2}$ and $\cos\theta > 0$.

13) Find $\cot\theta$ and $\cos\theta$
if $\csc\theta = \frac{5}{2}$ and $\cos\theta < 0$.

14) Find $\cos\theta$ and $\sec\theta$
if $\sin\theta = -\frac{1}{4}$ and $\cos\theta < 0$.

15) Find $\csc\theta$ and $\sin\theta$
if $\tan\theta = -\frac{2}{3}$ and $\csc\theta < 0$.

16) Find $\cos\theta$ and $\sec\theta$
if $\cot\theta = -\frac{1}{2}$ and $\cos\theta > 0$.

Verify each identity.

17) $\sin x \sec x = \tan x$

18) $\dfrac{1}{\sin x \cot x} = \dfrac{1}{\cos x}$

19) $\sec^2 x - \csc^2 x = \tan^2 x - \cot^2 x$

20) $\csc^2 x \cos^2 x = \csc^2 x - 1$