

Handout for LessonPlan 18

Verify these identities:

1)  $\cot^2 \theta \cos^2 \theta = \sin^2 \theta$

2)  $\csc \theta = \frac{\cot \theta + 1}{\cos \theta + \sin \theta}$

3)  $\frac{1 + \tan \theta}{1 + \cot \theta} = \tan \theta$

4) Find the exact value for  $\cos(15^\circ)$

5) Find the exact value for  $\sin(-165^\circ)$

6) Find the exact value for  $\sin(43^\circ)\cos(17^\circ) + \sin(17^\circ)\cos(43^\circ)$

$$7) \frac{\tan\left(\frac{8\pi}{9}\right) + \tan\left(\frac{7\pi}{9}\right)}{1 - \tan\left(\frac{8\pi}{9}\right)\tan\left(\frac{7\pi}{9}\right)}$$