Math 1330
Homework 22 (4.4 identities)

Record your answers to all the problems in the EMCF titled "**Homework 22**."

Establish an identity. Convert the expression on the left to one of the expressions on the right. Each expression is used only once.

1. $\dfrac{1 + \tan(\theta - \pi)}{1 + \cot(\theta + 2\pi)}$

2. $\cos(-\theta)\cot(-\theta) + \sin(-\theta)$

3. $(1 - \cos\theta)(\csc\theta + \cot\theta)$

4. $\sin\theta(\cot\theta + \tan\theta)$

5. $\dfrac{1 - \sin^2\theta}{\cos^2\theta - 1}$

6. $\dfrac{1 + \sec\theta}{1 - \sec\theta}$

7. $1 - \dfrac{\sin^2\theta}{1 - \cos\theta}$

8. $\dfrac{\sin\theta}{\cos(-\theta) - 1}$

9. $\dfrac{\cos\theta}{1 + \sin\theta} + \dfrac{1 + \sin\theta}{\cos\theta}$

10. $\dfrac{\tan\theta - \cot\theta}{\tan\theta + \cot\theta} + 1$

A.	$\tan\theta$
B.	$-\cos\theta$
C.	$2\sin^2\theta$
D.	$-\cot^2\theta$
E.	$\sin\theta$
F.	$\sec\theta$
G.	$2\sec\theta$
H.	$-\csc\theta$
I.	$\dfrac{1 + \cos\theta}{-\sin\theta}$
J.	$\dfrac{\cos\theta + 1}{\cos\theta - 1}$

Establish an identity. Convert the expression on the left to one of the expressions on the right. The expressions on the right may be used more than once, once, or not at all.

11. $\dfrac{1-\sin^2\theta}{\csc^2\theta-1}$

12. $\left(1+\tan^2\theta\right)\cos\theta$

13. $\tan\theta-\dfrac{\sec^2\theta}{\tan\theta}$

14. $\left(\tan\theta+\cot\theta\right)\left(\sin\theta\right)\left(\cos\theta\right)$

15. $\left(\tan\theta+\cot\theta\right)\cos\theta$

A. 0

B. 1

C. −1

D. 2

E. $\sin^2\theta$

F. $\csc\theta$

G. $\sec^2\theta$

H. $-\cot\theta$

I. $\sec\theta$

J. $2\sec\theta$