MEMORIAL UNIVERSITY OF NEWFOUNDLAND

DEPARTMENT OF MATHEMATICS AND STATISTICS

SECTION 3.4 **Math 1090 Worksheet** FALL 2009

For practise only. Not to be submitted.

1. Verify each of the following trigonometric identities.

   (a) $\sin^2(t)[1 + \cot^2(t)] = 1$

   (b) $\dfrac{\tan(\theta)\cot(\theta)}{\csc(\theta)} = \sin(\theta)$

   (c) $\sec^2(x)\csc^2(x) = \sec^2(x) + \csc^2(x)$

   (d) $\dfrac{\sin(x)}{1+\cos(x)} - \dfrac{1-\cos(x)}{\sin(x)} = 0$

   (e) $\dfrac{1-\sin(\theta)}{1+\sin(\theta)} = [\sec(\theta) - \tan(\theta)]^2$