Name: _____

Trigonometric Function Differentiation

Differentiate the following functions

1) $f(x) = \dfrac{\sin x}{1 + \cos x}$

2) $f(\theta) = \dfrac{\theta \sin \theta}{1 + \sin \theta}$

3) $f(x) = \dfrac{\sin x \cos x}{1 - \cos x}$

4) $f(\phi) = \dfrac{\phi + \sin \phi}{1 - \cos \phi}$

5) $f(x) = x \sin x$

6) $f(x) = \sin x \cos x$

7) $f(x) = (1 + \sin x)(1 - \cos x)$

8) $f(x) = x^2 \sin x$

9) $f(x) = \cot x + \tan x$

10) $f(x) = 2x \sec x + \tan x$

11) $f(x) = \dfrac{\cos x + 2}{\cos x - 1}$

12) $f(\theta) = \dfrac{\tan \theta}{1 + \sin \theta}$

13) $f(x) = \dfrac{\tan x + 3}{1 - \cos x}$

14) $f(x) = \dfrac{1 - \csc x}{\cos x - 2}$