MCS21 Homework 23

1. Fill in the table:

$f(x)$	$f'(x)$	$f(x)$	$f'(x)$
$\sin x$		$\cos x$	
$\sec x$		$\csc x$	
$\tan x$		$\cot x$	

In $2 - 11$, find $\dfrac{dy}{dx}$.

2. $y = \csc x \cot x$

3. $y = \sec x - \sqrt{2} \tan x$

4. $y = \left(x^2 + 1\right) \sec x$

5. $y = \sec x \tan x$

6. $y = \dfrac{\sec x}{1 + \tan x}$

7. $y = x - 4 \csc x + 2 \cot x$

8. $y = \dfrac{\cot x}{1 + \csc x}$

9. $y = \dfrac{\csc x}{\tan x}$

10. $y = \sin^2 x + \cos^2 x$

11. $y = \dfrac{1}{\csc x}$

12. Find $\dfrac{d^2 y}{dx^2}$ if $y = x \cos x$.