$sinx + cosx$	$x(xsec^2x + 2\tan x)$
$3\cos x$	$\frac{2(\sin x - x\cos x)}{sin^2x}$
$\sin x + 5$	$3\cos(3x + 4)$
$2\cos x - 3\sin x$	$-\frac{[(x+1)\sin x + \cos x]}{(x+1)^2}$
$x\sin x$	$\cos x - \sin x$
$x^2\tan x$	$5sec^2 5x$
$(x^2 + 1)\sin x$	$\cos x$
$\sin x\tan x$	$-\frac{(\sin x\tan x + \sec x)}{tan^2x}$
$(x + \sin x)\cos x$	$(x^2 + 1)\cos x + 2x\sin x$
$\frac{2x}{\sin x}$	$-8\sin(8x - 2)$

$\frac{x}{\tan x}$	$\cos 2x - x \sin x + \cos x$
$\frac{\cos x}{x+1}$	$x \cos x + \sin x$
$\frac{\tan x}{\sin x}$	$\frac{\tan x - x sec^2 x}{tan^2 x}$
$\frac{\cos x}{\tan x}$	$-3 \sin x$
$\sin 3x$	$10 \cos 5x$
$\tan 5x$	$\tan x \sec x + \sin x$
$\sin(3x+4)$	$\frac{\tan x (\sec x - \cos x)}{sin^2 x}$
$\cos(8x-2)$	$-12 \sin 4x$
$2 \sin 5x$	$-2 \sin x - 3 \cos x$
$3 \cos 4x$	$3 \cos 3x$

Teacher Notes:

Functions in black can be differentiated simply using the formulae and tables.
Functions in red are to be differentiated using the **product rule**.
Functions in blue are to be differentiated using the **quotient rule**.
Functions in purple are to be differentiated using the **chain rule**.

It is up to you whether you wish to tell students this or not.