Differentiation Rules Worksheet

Fill in the second column with the general rule for the derivative of $h(x)$. Then make up a simple example of $h(x)$ and find its derivative for the third column.

Function $h(x)$	**Derivative $h'(x)$**	**Simple example**
$h(x) = x^r$ where r is a real number		
$h(x) = kf(x)$ where k is a real number and $f(x)$ is a function of x		
$h(x) = f(x) + g(x)$ where f and g are functions of x		
$h(x) = (g(x))^r$ where r is a real number and $g(x)$ is a function of x		
$h(x) = e^{kx}$ where k is a real number		
$h(x) = f(x)g(x)$ where f and g are functions of x		
$h(x) = \dfrac{f(x)}{g(x)}$ where f and g are functions of x		
$h(x) = f(g(x))$ where f and g are functions of x		

Function $h(x)$	**Derivative $h'(x)$**	**Simple example**
$h(x) = e^{g(x)}$ where g is a function of x		
$h(x) = \ln x$		
$h(x) = \ln(g(x))$		
$A = Pe^{rt}$ (continuously compounded formula)		