Formulaire de dérivation

1 Fonctions usuelles

Fonction	**Dérivée**
$f(x) = k$	$f'(x) = 0$
$f(x) = x$	$f'(x) = 1$
$f(x) = ax + b$	$f'(x) = a$
$f(x) = x^2$	$f'(x) = 2x$
$f(x) = x^\alpha$	$f'(x) = \alpha x^{\alpha-1}$
$f(x) = \frac{1}{x} (x \neq 0)$	$f'(x) = -\frac{1}{x^2}$
$f(x) = \sqrt{x} (x > 0)$	$f'(x) = \frac{1}{2\sqrt{x}}$
$f(x) = e^x$	$f'(x) = e^x$
$f(x) = ln(x)$	$f'(x) = \frac{1}{x}$

2 Dérivée et opérations

Fonction	**Dérivée**
$f(x) = u + v$	$f'(x) = u' + v'$
$f(x) = ku$ (k constante)	$f'(x) = ku'$
$f(x) = uv$	$f'(x) = u'v + uv'$
$f(x) = \frac{1}{u}$	$f'(x) = -\frac{u'}{u^2}$
$f(x) = \frac{u}{v}$	$f'(x) = \frac{u'v - uv'}{v^2}$
$f(x) = u^\alpha$	$f'(x) = \alpha u^{\alpha-1} u'$
$f(x) = e^u$	$f'(x) = u'e^u$
$f(x) = ln(u)$	$f'(x) = \frac{u'}{u}$
$f(x) = v \circ u$	$f'(x) = (v' \circ u)u'$