1 Wzory na pochodne wybranych funkcji

$$c \in \mathbb{R} \qquad\qquad \alpha \in \mathbb{R}$$

$$c' = 0, \tag{1}$$
$$(x^\alpha)' = \alpha x^{\alpha-1}, \tag{2}$$
$$(a^x)' = a^x \ln a, \tag{3}$$
$$(e^x)' = e^x, \tag{4}$$
$$(\log_a x)' = \frac{1}{x \cdot \ln a}, \tag{5}$$
$$(\ln x)' = \frac{1}{x}, \tag{6}$$
$$(\sin x)' = \cos x, \tag{7}$$
$$(\cos x)' = -\sin x, \tag{8}$$
$$(\operatorname{tg} x)' = \frac{1}{\cos^2 x}, \tag{9}$$
$$(\operatorname{ctg} x)' = \frac{-1}{\sin^2 x}, \tag{10}$$
$$(\arcsin x)' = \frac{1}{\sqrt{1-x^2}}, \tag{11}$$
$$(\arccos x)' = \frac{-1}{\sqrt{1-x^2}}, \tag{12}$$
$$(\arctan)' = \frac{1}{1+x^2}, \tag{13}$$
$$(\operatorname{arcctg} x)' = \frac{-1}{1+x^2}, \tag{14}$$
$$(\sinh x)' = \cosh x, \tag{15}$$
$$(\cosh x)' = \sinh x, \tag{16}$$
$$(\operatorname{tgh} x)' = \frac{1}{\cosh^2 x}, \tag{17}$$
$$(\operatorname{ctgh} x)' = \frac{-1}{\sinh^2 x} \tag{18}$$

2 Pochodna sumy, różnicy, iloczynu, ilorazu funkcji

$$(f(x) + g(x))' = f'(x) + g'(x) \tag{19}$$

$$(c \cdot f(x))' = c \cdot f'(x), \qquad\qquad c - \text{liczba} \tag{20}$$

$$(f(x) \cdot g(x))' = f'(x) \cdot g(x) + f(x) \cdot g'(x) \tag{21}$$

$$\left(\frac{f(x)}{g(x)}\right)' = \frac{f'(x) \cdot g(x) - f(x) \cdot g'(x)}{g^2(x)}, \qquad \text{o ile } g \neq 0 \tag{22}$$

$$\tag{23}$$