

数学演習 (1) 第 4 回 導関数 解答

- I. (1) $8x^3 + \frac{1}{\sqrt[3]{x^2}} - \frac{8}{x^3}$
(2) $(2^x - 2^{-x}) \log 2$
(3) $3x^2 \log x + x^2$
(4) $2e^x \cos x$
(5) $\frac{ad - bc}{(cx + d)^2}$
(6) $\frac{e^x(x-1)^2}{(x^2+1)^2}$
(7) $(1-2x) \sin(1-x+x^2)$
(8) $\frac{1}{x \log x}$
(9) $\frac{-e^{-2x}}{\sqrt{1+e^{-2x}}}$
(10) $\left(\tan x + \frac{x}{\cos^2 x}\right) e^{x \tan x}$
(11) $5 \sin^4 x \cos x$
(12) $\sinh x$
(13) $\cosh x$
(14) $\frac{1}{(\cosh x)^2}$
(15) $\frac{1}{\sqrt{x^2+a}}$
(16) $\frac{1}{\sqrt{a^2-x^2}}$
(17) $\frac{a}{a^2+x^2}$
(18) $-\frac{2x}{\sqrt{1-x^4}}$
(19) $\frac{1}{\sqrt{1-x-x^2}}$
(20) $-\frac{1}{1+x^2}$
(21) $\arcsin x$
(22) $\arctan x$
(23) $x^{\cos x} \left(\frac{\cos x}{x} - \sin x \log x \right)$