Examples

Find the derivatives of the following functions.

(a)
$$y = e^{x} \sqrt{x}$$

(b) $y = \sqrt{e^{x} + 1}$

(c)
$$y = -10^{x^2 - x + 1}$$

Examples

Find the derivatives of the following functions.

(a)
$$y = \ln(-4x)$$

(b) $y = \ln \sqrt{3x + 1}$
(c) $v = \frac{\ln u}{u^3}$
(d) $y = e^{2x-1} \ln(2x - 1)$
(e) $y = \log_3 |1 - x|$

Examples

For each of the following functions, find the derivative f'(x). Simplify (a) only.

(a)
$$f(x) = \frac{2^{x^3}}{3 \ln 2} + 4x^{5/4}$$

(b) $f(x) = [\log_3 (e^{3x})]^2$
(c) $f(x) = \frac{2x + e}{5x^2 + 2}$

(d)
$$f(x) = (\sqrt{x^2 + 4}) \ln (x^3 + 4x)$$