



次の関数の逆関数を求めよ。

(1)  $y = 2x - 1$

(3)  $y = 5^x$

(5)  $y = \frac{-x+3}{x-2}$

(2)  $y = -2\sqrt{x}$

(4)  $y = \log_2 x$

(6)  $y = x^2 + 3 \ (x \geq 0)$

$y^2 = 4x$

$x = \frac{y^2}{4} \quad y \geq 0$

(1)

$x = 2y - 1$

$2y = x + 1$

$y = \frac{1}{2}x + \frac{1}{2}$

(2)

$x = -2\sqrt{y}$

$2\sqrt{y} = -x \quad \sqrt{y} = -\frac{x}{2}$

$y = \frac{x^2}{4} \quad (x \leq 0)$

(3)

$x = 5^y$

$\log_5 x = \log_5 5^y$

$y = \log_5 x$

(4)

$x = \log_2 y$

$\log_2 2^x = \log_2 y$

$y = 2^x$

(5)  $x = \frac{1}{y-2} - 1 \quad y \neq -1$

$\frac{1}{y-2} = x+1$

$\frac{1}{y-2} = \frac{x+1}{1}$

$y-2 = \frac{1}{x+1}$

$y = \frac{1}{x+1} + 2$

(6)

$x = y^2 + 3$

$y^2 = x - 3$

$y = \pm\sqrt{x-3}$

$y \geq 0$  のとき

$y = \sqrt{x-3}$

( $y \geq 0$ )

(5)

$y = \frac{-x+3}{x-2} \quad y \neq -1$

$(x-2)y = -x+3$

$xy - 2y = -x+3$

$x(y+1) = 2y+3$

$x = \frac{2y+3}{y+1} \quad y = \frac{2x+3}{x+1}$