

指数法則

$$a^m a^n = a^{m+n}$$

$$(a^m)^n = a^{mn}$$

$$(ab)^n = a^n b^n$$

$$a^p = M \quad \Leftrightarrow$$

(logを使う式に)

$$p = \log_a M$$

$$p = \log_a M \quad \Leftrightarrow$$

($\log$ を使わない式に)

$$a^p = M$$

$$\log_a MN =$$

$$\log_a MN = \log_a M + \log_a N$$

$$\log_a \frac{M}{N} =$$

$$\log_a \frac{M}{N} = \log_a M - \log_a N$$

$$\log_a M^k =$$

$$\log_a M^k = k \log_a M$$

底の変換公式

$$\log_a b =$$

$$\log_a b = \frac{\log_c b}{\log_c a}$$

$$\log_{a^p} b^p =$$

$$\log_{a^p} b^p = \log_a b$$

$$a^{\log_a b} =$$

$$a^{\log_a b} = b$$

$\log_a b$ において、

真数条件は

底の条件は

真数条件は, $b > 0$

底の条件は, $a > 0, a \neq 1$

$$a^0 =$$

$$a^{-1} =$$

$$a^{\frac{1}{2}} =$$

$$a^0 = 1$$

$$a^{-1} = \frac{1}{a}$$

$$a^{\frac{1}{2}} = \sqrt{a}$$

$$\log_a 1 =$$

$$\log_a a =$$

$$\log_a \sqrt{a} =$$

$$\log_a 1 = 0$$

$$\log_a a = 1$$

$$\log_a \sqrt{a} = \frac{1}{2}$$

$$\log_3 2 = \log_9 \square$$

$$\log_3 2 = \log_{\frac{1}{3}} \square$$

$$\log_3 2 = \log_9 4$$

$$\log_3 2 = \log_{\frac{1}{3}} \frac{1}{2}$$

$$\log_4 3 = \log_2 \square$$

$$\log_{\frac{1}{2}} 3 = \log_4 \square$$

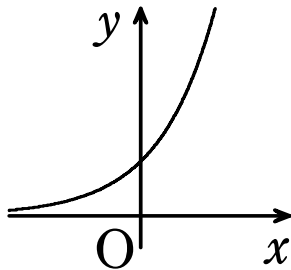
$$\log_4 3 = \log_2 \sqrt{3}$$

$$\log_{\frac{1}{2}} 3 = \log_4 \frac{1}{9}$$

右のグラフを表す式はどれ？

① $y = 2^x$ ② $y = \left(\frac{1}{2}\right)^x$

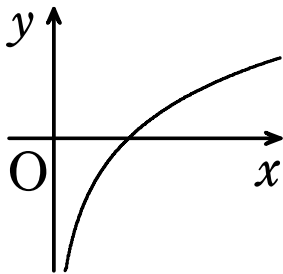
③ $y = \log_2 x$ ④ $y = \log_{\frac{1}{2}} x$



$$\textcircled{1} y = 2^x$$

右のグラフを表す式はどれ？

- ① $y = 2^x$ ② $y = \left(\frac{1}{2}\right)^x$
③ $y = \log_2 x$ ④ $y = \log_{\frac{1}{2}} x$

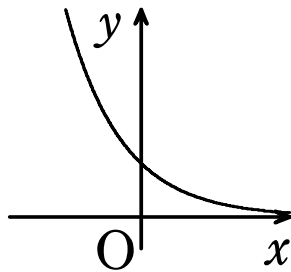


$$\textcircled{3} y = \log_2 x$$

右のグラフを表す式はどれ？

① $y = 2^x$ ② $y = \left(\frac{1}{2}\right)^x$

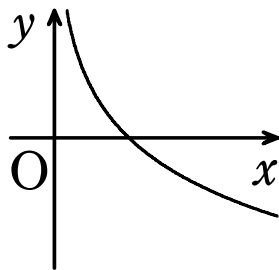
③ $y = \log_2 x$ ④ $y = \log_{\frac{1}{2}} x$



$$\textcircled{2} y = \left(\frac{1}{2}\right)^x$$

右のグラフを表す式はどれ？

- ① $y = 2^x$ ② $y = \left(\frac{1}{2}\right)^x$
③ $y = \log_2 x$ ④ $y = \log_{\frac{1}{2}} x$



$$\textcircled{4} y = \log_{\frac{1}{2}} x$$