LOG FORM: $\log_b Q = P$ (base)

EXP. FORM: $b^P = Q$

#2 $\underset{b}{5}^{\underset{P}{3}} = \underset{Q}{125}$

LOG FORM: $\log_5 125 = 3$

#3 $\sqrt[4]{16} = 2$

$\underset{b}{16}^{\underset{P}{\frac{1}{4}}} = \underset{Q}{2}$

LOG FORM: $\log_{16} 2 = \frac{1}{4}$

#1 $\underset{P}{5} = \log_{\underset{b}{3}} \underset{Q}{X}$

EXP FORM: $b^P = Q$

$3^5 = X$

log ln LN

PROPERTY

$\log_b b^P = P$

#4 $\log_5 25$

$\log_5 5^2$

2

#5 $\log_2 \frac{1}{8}$

$\log_2 \frac{1}{2^3}$

$\log_2 2^{-3}$

-3

#6 $\log_4 \sqrt{4}$

$\log_4 4^{\frac{1}{2}}$

$\frac{1}{2}$

#7 $\log_9 3$

$\log_9 9^{\frac{1}{2}}$

$\frac{1}{2}$

$\sqrt{9} = 3$

$9^{\frac{1}{2}} = 3$

#8 $\log_8 1$

$\log_8 8^0$

0

PROPERTY

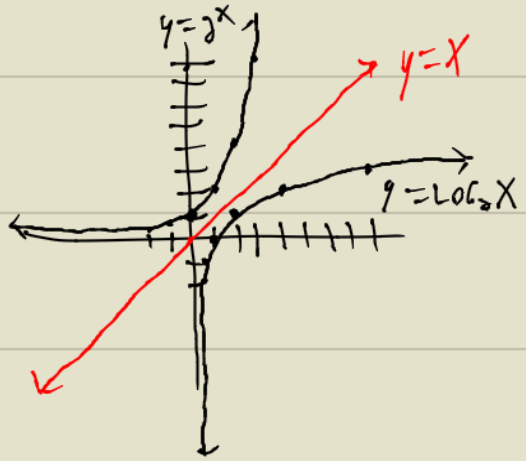
$b^{\log_b Q} = Q$

#9 $3^{\log_3 17}$

17

$y = 2^x$

x	y
3	$2^3 = 8$
2	$2^2 = 4$
1	$2^1 = 2$
0	$2^0 = 1$
-1	$2^{-1} = \frac{1}{2}$
-2	$2^{-2} = \frac{1}{2^2} = \frac{1}{4}$
-3	$2^{-3} = \frac{1}{2^3} = \frac{1}{8}$



$y = \log_2 x$

x	y
8	3
4	2
2	1
1	0
$\frac{1}{2}$	-1
$\frac{1}{4}$	-2
$\frac{1}{8}$	-3

CHANGE OF BASE

$y = \frac{\log X}{\log 2}$

OR

$y = \frac{\ln X}{\ln 2}$