

chapter

7

Algebra 3

Section 7.10 The graph of $y = \log_a(x)$

PROJECT MATHS

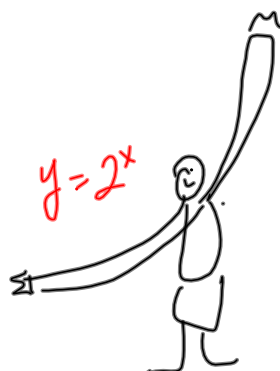
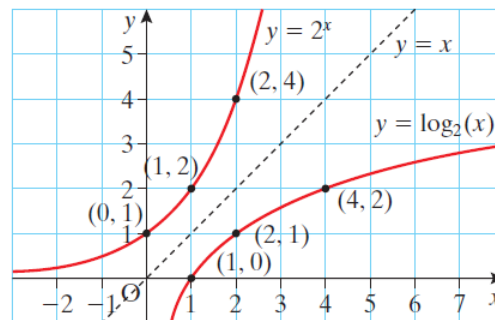
Text & Tests 6

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Comparing $\log_a(x)$ with $y = a^x$

If we let $a = 2$; comparing $y = 2^x$ and $y = \log_2(x)$, we have

x	$y = 2^x$	x	$y = \log_2 x$
0	$y = 2^0 = 1$	1	$y = \log_2 1 = 0$
1	$y = 2^1 = 2$	2	$y = \log_2 2 = 1$
2	$y = 2^2 = 4$	4	$y = \log_2 4 = 2$
3	$y = 2^3 = 8$	8	$y = \log_2 8 = 3$
4	$y = 2^4 = 16$	16	$y = \log_2 16 = 4$



$$2^x = \begin{cases} 2^{-1} = \frac{1}{2} \\ 2^0 = 1 \\ 2^1 = 2 \\ 2^2 = 4 \\ 2^3 = 8 \end{cases}$$