

Exploring Bases, Exponents and Answers Key

Base (b)	Answer (a)	Exponent (power) p	Exponential form $b^p = a$	Log form $\log_b a = p$
10	1000	3	$10^3 = 1000$	$\log 1000 = 3$
10	1/100	-2	$10^{-2} = \frac{1}{100}$	$\log \frac{1}{100} = -2$
4	$\frac{1}{2}$	$+\frac{1}{2}$	$4^{-\frac{1}{2}} = \frac{1}{2}$	$\log_4 \frac{1}{2} = -\frac{1}{2}$
7	1	0	$7^0 = 1$	$\log_7 1 = 0$
8	4	$\frac{2}{3}$	$8^{\frac{2}{3}} = 4$	$\log_8 4 = \frac{2}{3}$
10	$\frac{1}{1000}$	-3	$10^{-3} = \frac{1}{1000}$	$\log \frac{1}{1000} = -3$
27	9	$\frac{2}{3}$	$27^{\frac{2}{3}} = 9$	$\log_{27} 9 = \frac{2}{3}$
3	81	4	$3^4 = 81$	$\log_3 81 = 4$
4	64	3	$4^3 = 64$	$\log_4 64 = 3$
$\frac{1}{2}$	4	-2	$(\frac{1}{2})^{-2} = 4$	$\log_{\frac{1}{2}} 4 = -2$
64	16	$\frac{2}{3}$	$64^{\frac{2}{3}} = 16$	$\log_{64} 16 = \frac{2}{3}$
100	1/10	-1/2	$100^{-1/2} = \frac{1}{10}$	$\log_{100} \frac{1}{10} = -1/2$
$\frac{1}{100}$	10	-1/2	$\frac{1}{100}^{-1/2} = 10$	$\log \frac{1}{100} 10 = -\frac{1}{2}$
e	1	0		$\ln 1 = 0$