

Logarithms

1 1.65

2 0.713

 3

a 2

b 0

c $\frac{1}{2}$

d 4

e 1

f -1

g 0

h $\frac{1}{2}$

i -1

j -2

k -2

l -3

4

a -2

b -4

c -2

d 2

Logarithmic and exponential form

5

a $\log_5 25 = 2$

b $\log_3 81 = x$

c $\log_3 3 = 1$

d $\log_2 1 = 0$

e $\log_{4.4} 1 = 0$

f $\log_4 32 = \frac{5}{2}$

g $\log_4 0.0625 = -2$

h $\log_4 \frac{1}{64} = -3$

i $\log_x 64 = 1.5$

j $\log_{25} 125 = \frac{3}{2}$

k $\log_4 0.25 = -1$

l $\log_2 \frac{1}{64} = -6$

m $\log_4 16 = 2$

n $\log_4 4 = 1$

o $\log_3 1 = 0$

p $\log_{9.8} 1 = 0$

q $\log_{25} 125 = 1.5$

6

a $\log_{10} 100 = 2$

b $\log_{10} \left(\frac{1}{100} \right) = -2$

c $\log_{10} (\sqrt{10}) = \frac{1}{2}$

d $\log_{10} \left(\frac{1}{\sqrt{10}} \right) = -\frac{1}{2}$

7

a $\log_x 243 = 2.5$

b $\log_9 81 = x$

8

a $4^2 = 16$

b $5^1 = 5$

c $2^{-3} = 0.125$

d $3^{-1} = \frac{1}{3}$

e $(5.8)^2 = 33.64$

f $\left(\frac{1}{3}\right)^{-2} = 9$

g $6^2 = 36$

h $2^1 = 2$

i $8^0 = 1$

j $10^{-1} = 0.1$

k $7^{-1} = \frac{1}{7}$

l $(8.4)^2 = 70.56$

m $\left(\frac{1}{3}\right)^{-4} = 81$

9

a $x^2 = 64$

b $5^9 = x$

c $x^5 = 32$

d $8^6 = x$

10

a

i $x = \log_{10} 860$

ii 2.93

b

i $x = \log_{10} 0.0002$

ii -3.70

c

i $x = \log_{10} 790$

ii 2.90

d

i $x = \log_{10} 0.0003$

ii -3.52