

Exponential equations and Log equations

1) Rewrite each in exponential form

a) $\log_{10}(0.0002042) = -3.690$

b) $\log_2(117.2) = 6.873$

c) $\log_6(2.397) = 0.488$

d) $\ln(5.824) = 1.762$

2) Rewrite each in log form

a) $8^{3.147} = 695.1$

b) $e^{-2.487} = 0.08316$

c) $10^{4.39} = 24550$

d) $2^{0.169} = 1.124$

3) Solve each equation

a) $\log_2(x) = -2.116$

b) $\log_{10}(x) = 0.0284$

c) $\ln(x) = 9.33$

d) $\log_5(x) = -3.87$

e) $\log_{10}(4.38) = x$

f) $\log_4(0.222) = x$

g) $\ln(46.5) = x$

h) $\log_2(15.32) = x$

i) $\log_{10}(-3.2) = x$

j) $\ln(0) = x$

4) Solve each equation

a) $10^x = 0.335$

b) $e^x = 7.42$

c) $9^x = 9.32$

d) $2^x = 1.92$

e) $e^x = 0$

f) $10^x = -3.5$

g) $e^{-0.254} = x$

h) $7^{3.559} = x$

i) $10^{-4.77} = x$

j) $2^{11.5} = x$

Answers on next page

1)a) $10^{-3.690} = 0.0002042$

b) $2^{6.873} = 117.2$

c) $6^{0.488} = 2.397$

d) $e^{1.762} = 5.824$

2)a) $\log_8(695.1) = 3.147$

b) $\ln(0.08316) = -2.487$

c) $\log_{10}(24550) = 4.39$

d) $\log_2(1.124) = 0.169$

3)a) 0.2307

b) 1.068

c) 11300 (Notice this answer is written to only 3 sig figs. Your calculator gives many more. They are not needed.)

d) 0.00197

e) 0.641

f) -1.086

g) 3.839

h) 3.938

i) No solution

j) No solution

4)a) -0.475

b) 2.004

c) 1.016

d) 0.941

e) No solution

f) No solution

g) 0.776

h) 1018

i) 0.00001698

j) 2896