

Experimental: Problem Using Logs

Q/

Results taken in an experiment are recorded in the table below.

p	1	1.2	1.4	1.6	1.8	2
q	2	5	10.8	21	37.8	64

a) Plot accurately a graph p as x axis, q as y axis.

b) It is thought that the relationship between p and q obeys $q = ap^n$

where a and n are whole numbers to be found.

Create a new table of values for

$\log_{10} p$						
$\log_{10} q$						

c) Plot accurately a graph $\log_{10} p$ as x axis, $\log_{10} q$ as y axis.

d) Use this new logarithmic scale graph to deduce the values of a and n.

e) Write down the relationship linking q and p.