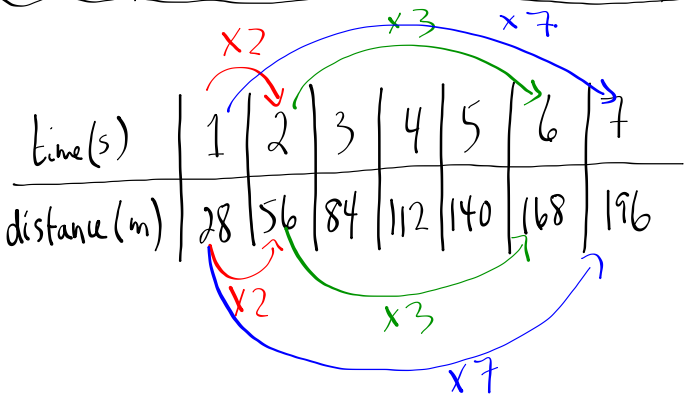
Analyzing Experimental Data - Proportioning Techniques



When the multipliers are equal then we know that there is a direct proportionality between the two variables.

$d \propto t$ proportionality

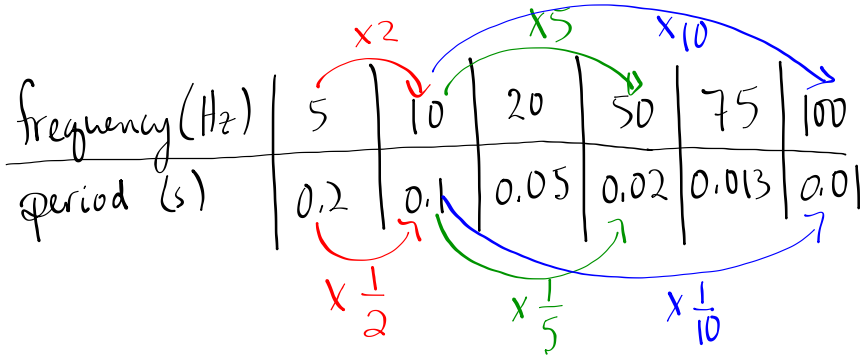
$d = kt$ general equation

$k = \frac{d}{t}$

$k = \frac{112\ m}{4\ s}$

$k = 28\ m/s$ } solve for k

$d = (28\ m/s)t$ specific equation



$T \propto \frac{1}{f}$

SP1

y	x
250	3
750	9
2500	30
5000	60

x3, x3, x10, x10, x2, x2

$x \propto y$

SP2

A	B
20	14
80	28
180	42
2000	140

x4, x2, x9, x3, x100, x10

$A \propto B^2$

$B^2 \propto A$

$\sqrt{A} \propto B$

SP3

F	r
900	1
225	2
36	5
14	18
1	30

$\times \frac{1}{4}$, x2, $\times \frac{1}{25}$, x5, $\times \frac{1}{900}$, x30

$F \propto \frac{1}{r^2}$

$r^2 \propto \frac{1}{F}$

$\sqrt{F} \propto \frac{1}{r}$

TO DO

① FOP | PP | 23

② FOP | P38 | 26 + 27

for all sets of data
① proportionality
② gen. eq.
③ find k
④ specific eq.

③ Assignment (FOP) - due Fri

P38 | 28 - 34, 35+36

ADV