

81-7 Analyzing Experimental Data - Proportioning Technique

t (s)	1	2	3	4	5	6	7
d (m)	28	56	84	112	140	168	196

(Diagram showing multipliers: $\times 2$ from 1 to 2, $\times 3$ from 2 to 3, $\times 3$ from 3 to 6, $\times 2$ from 2 to 4, $\times 3$ from 3 to 5, $\times 3$ from 3 to 7)

When these "multipliers" are equal we can write the prop.

$d \propto t$ (proportionality statement)

$d = kt$ (general equation)

$k = \frac{d}{t}$ (solve for k)

$k = \frac{84m}{3s}$

$k = 28m/s$

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

f (Hz)	5	10	20	50	75	100
T (s)	0.2	0.1	0.05	0.02	0.013	0.01

(Diagram showing multipliers: $\times 2$ from 5 to 10, $\times 5$ from 10 to 50, $\times 10$ from 10 to 100, $\times \frac{1}{2}$ from 5 to 0.1, $\times \frac{1}{5}$ from 10 to 0.02, $\times \frac{1}{10}$ from 10 to 0.01)

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

$T = k\left(\frac{1}{f}\right)$

$T = \frac{k}{f}$

SP1

y	x
250	3
750	9
2500	30
5000	60

$y \propto x$

SP2

A	B
20	14
80	28
180	42
2000	140

$A \propto B^2$

SP3

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

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

TO DO

① Finish GA worksheet

② FOP | PP | 23

③ FOP | p38 | 26+27

numbers not as nice

- ① prop.
- ② gen. eq.
- ③ find k
- ④ specific eq.