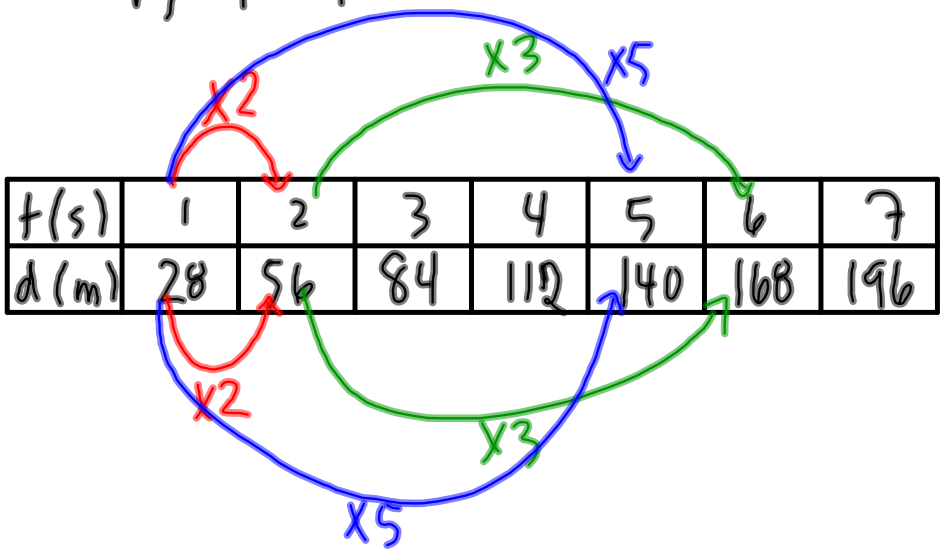
Analyzing Experimental Data



$d \propto t$ (proportionality statement)

$d = kt$ (general equation)

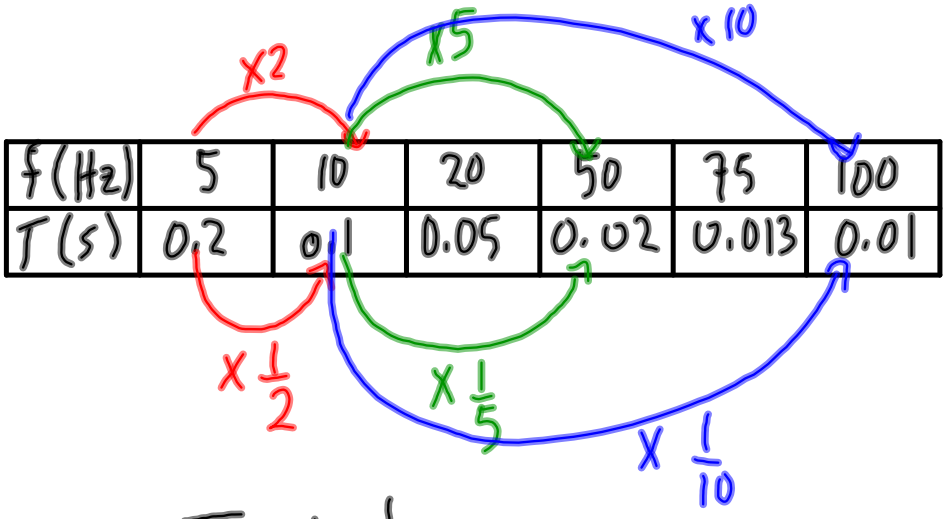
$k = \frac{d}{t}$

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

$k = 28\,m/s$

} solve for k

$d = \left(28\frac{m}{s}\right)t$ (specific equation)



$T \propto \frac{1}{f}$ ← inverse proportionality

SP1

y	x
250	3
750	9
2500	30
5000	60

x3, x3, x10, x10, x2, x2

$y \propto x$

Since the multipliers match, we know this is a direct proportionality.

SP2

A	B
20	14
80	28
180	42
2000	140

x4, x2, x9, x3, x100, x10

$A \propto B^2$

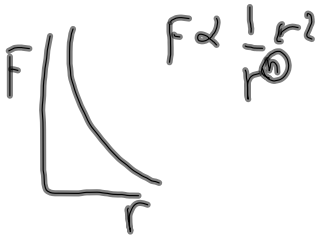
the multipliers on B need to squared to equal the multipliers for A

SP3

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

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

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



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

Hw

FOP: p 22 | PP

p 38 | 26, 27

1. write the prop.
2. write the general eq.
3. find k.
4. write the specific eq.

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