

till infinite

Why this doubling trick works.  
Have to prove this

For mode  $x \times x$

suppose  $2 \ 5 \ 5 \ 6 \ 7$

$\times 2 \ \times 2 \ \times 2 \ \times 2 \ \times 2$   
 $4 \ 10 \ 10 \ 12 \ 14$   
 $= 2x \ 2y \ 2y$

mode = 5  $\rightarrow 5 \times 2 = 10$

median = 5

range = 5

mead = 5

$\times 2$   
 $2, 5, 5, 6, 7$   
 $4, 10, 10, 12, 14$

naturally

the  $y$  is repeated so  
 $2y$  is also repeated

It is convinced that if everything is  
doubled, mode is also doubled

For median

position ~~wise~~ wise

$2 \ 5 \ 5 \ 6 \ 7$

$4 \ 10 \ 10 \ 12 \ 14$

it will be doubled as well

For range

so first in  $2 \ 5 \ 5 \ 6 \ 7$

range is ~~7-5~~

$7-2$  originally

new range  $-(7 \times 2) - (2 \times 2)$   
 $= 2(7-2)$

For mean

For that this part is common

$$2 \left[ \frac{\quad}{5} \right]$$

when you are doubling the whole set then that doubles the whole sum of it and then ~~just~~ you can divide it by 5

that's why this is common  $2 \left( \frac{\quad}{5} \right)$   
original  $\rightarrow \frac{\quad}{5}$

new mean #

in 4 10 10 12 14

$$= \frac{(4+10+10+12+14)}{5}$$

in short =  $2 \left( \frac{2+5+5+6+7}{5} \right)$

new mean is  $\times 2$  the mean of original original mean set

For base set you need some trial and error:

: By changing the multiplier, we can find infinite sets.