c) $\because$ (4, b, c ...) is an arithmetic sequence

$\therefore 4 + c = 2b \Rightarrow \boxed{c = 2b - 4}$ ....(1)

$\because$ (2, b+3, 5c ...) is a geometric sequence.

$\therefore 2 \times 5c = (b+3)^2 \Rightarrow \boxed{10c = (b+3)^2}$ .....(2)

$\therefore$ From (1) in (2) $\Rightarrow 10(2b-4) = (b+3)^2$

$\therefore 20b-40=b^2+6b+9 \Rightarrow b^2+6b+9-20b+40=0$

$\therefore b^2+-14b+49=0 \Rightarrow (b-7)^2=0$

$\therefore \boxed{b=7} \Rightarrow \boxed{c=10}$

$\therefore$ The G.S (5c, b+3, 2...) $\Rightarrow$ (50,10,2,..)

$\therefore a=50\ ,\ r=\frac{10}{50} \Rightarrow \boxed{r=\frac{1}{5}}$

$\because S_\infty = \frac{a}{1-r} \Rightarrow S_\infty = \frac{50}{1-\frac{1}{5}} = \frac{50}{\frac{5}{5}-\frac{1}{5}}$

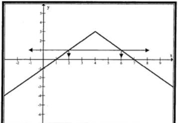
$\therefore S_\infty = \frac{50 \times 5}{\frac{4}{\not 5} \times \not 5} = \frac{250}{4} = 62\frac{1}{2}.$

2) a) $\because f(x)=3-|x-4|$

$\therefore f(x)=-|x-4|+3$

Vertex is (4,3). Down

x	2	3	4	5	6
f(x)	1	2	3	2	1



•Range= $]-\infty, 3]$ & Equation of axis is x=4

&The graph lies below the line y=3

•To solve the equation $2-|x-4|=0$

By adding 1 to both sides

$\therefore 3-|x-4|=1 \Rightarrow$ S.S is the set of x coordinates of the points of intersection of

$f(x)=3-|x-4|$ & $f(x)=1 \Rightarrow S.S=\{2, 6\}$