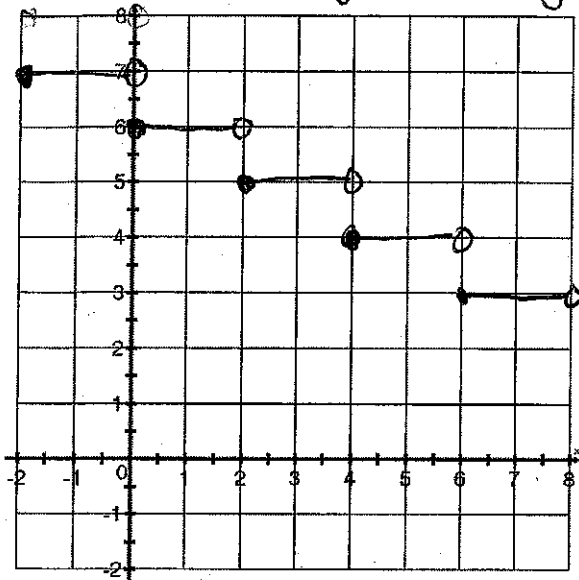


Describe the transformations for each of the following and graph.

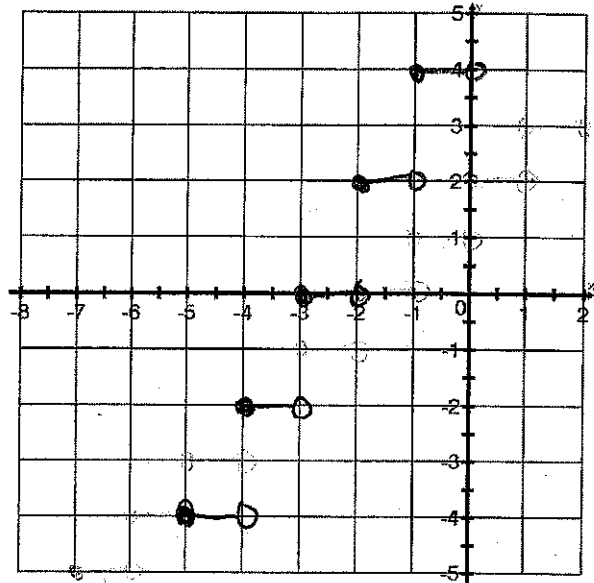
1. $f(x) = -\left\lceil \frac{1}{2}x - 2 \right\rceil + 4 = -\left\lceil \frac{1}{2}(x-4) \right\rceil + 4$

2. $f(x) = 2\lceil x+4 \rceil - 2$

start: (4, 4) length: 2 going down by step of 1



start: (-4, -2) length: 1 up by step of 2



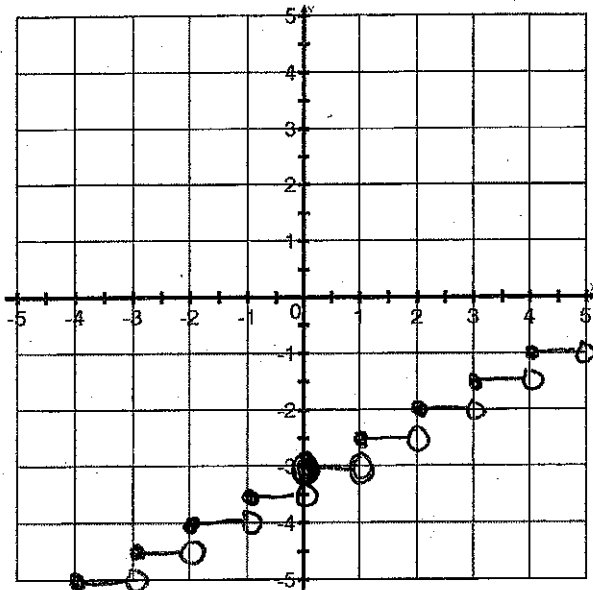
$$3. f(x) = \frac{1}{2} \lceil x \rceil - 3$$

start: $(0, -3)$

length: 1

up by

step of $\frac{1}{2}$



$$4. f(x) = -\lceil 2x+3 \rceil - 1 = -\lceil 2(x + \frac{3}{2}) \rceil - 1$$

start: $(-\frac{3}{2}, -1)$

length: $\frac{1}{2}$

down by

step of 1

