

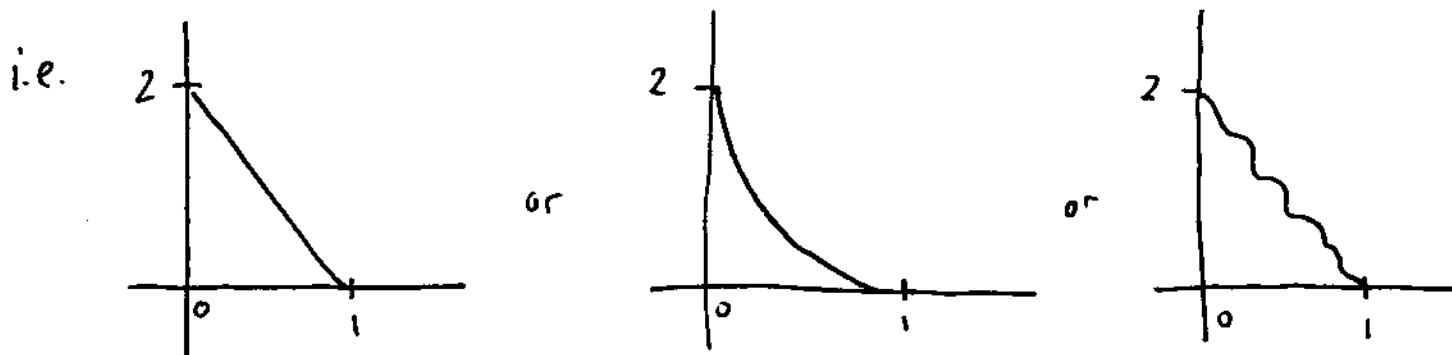
But this takes $[0,1)$ to $(-2,0]$ so we still need to push the interval over ~~to the right~~ so that the left endpoint is 0.

The total map should then be

$$x \mapsto -2x+2.$$

(ii) Another way to approach this is as follows: what we are looking for is a 1-1 continuous map from $[0,1)$ onto $(0,2]$ which takes 0 to 2 and 1 to 0.

We can picture such maps as functions.



any continuous function which is 1-1 and takes
 value 2 at $x=0$ and value 0 at $x=1$
 will do.

Our previous example $-2x+2$ is such a function.
 (see first picture above.)