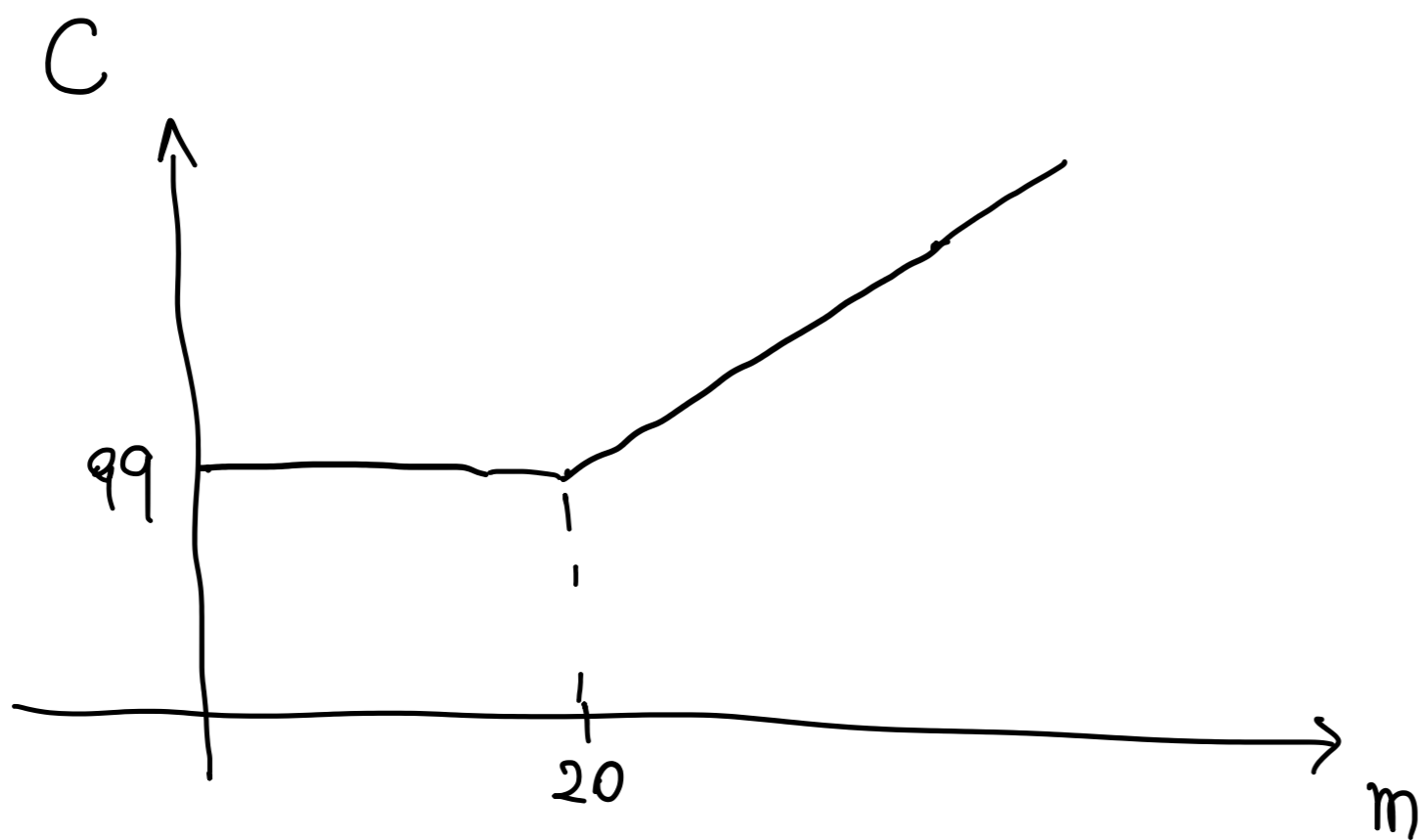


Example:

A data plan from a telephone company charges 99 cents per day for data usage up to 20 Mb and 7 cents for each additional Mb or part of a Mb.

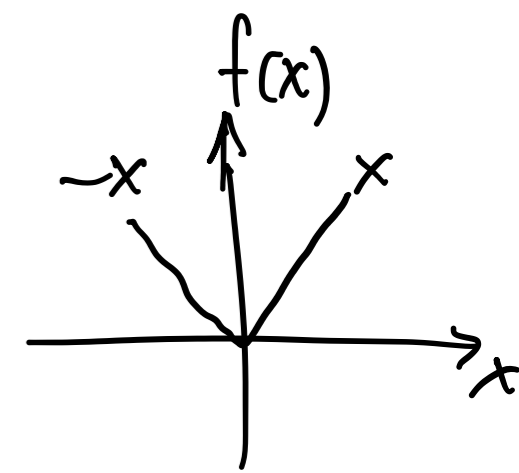
(a) Write down a formula for the daily cost, C , of the data plan as a function of the number of Mb used, m .

$$(a) \quad C = f(m) = \begin{cases} 99 & , \text{ for } 0 \leq m \leq 20 \\ 99 + 7(m-20) & , \text{ for } m > 20 \end{cases} \quad (\text{also okay to write } 20 < m < \infty)$$



domain: $0 \leq m < \infty$
range: $99 \leq C < \infty$

Note: Absolute value of x $f(x) = |x| = \begin{cases} -x & \text{for } x < 0 \\ x & \text{for } x \geq 0 \end{cases}$



Sketch $g(x) = |x-2| = \begin{cases} -(x-2) & \text{for } x < 2 \\ x-2 & \text{for } x \geq 2 \end{cases}$

