INVERTIBLE FUNCTIONS

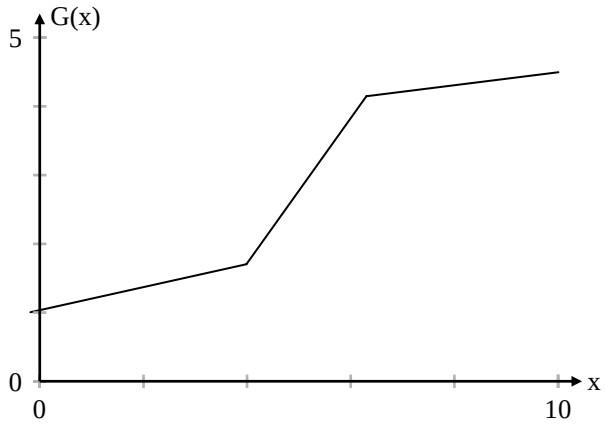
1. In each case, explain or verify that the given function is invertible. Find the inverse function.

A.

m	1	2	3	4	5
$f(m)$	0.09	2.10	5.60	7.80	9.40

B. $S(t) = At^3 + K$ where A and K are constants.

C.



2. The life expectancy, L, of a child can be expressed as a function of the year of birth, y.

$L(y) = \dfrac{y + 66.94}{0.01y + 1}$ where $y = 0$ corresponds to 1950. Use the graph of $L(y)$ to estimate $L^{-1}(76)$.

Include a practical interpretation of your answer.

3. Determine if the following functions are invertible. Give reasons for your answers.

A. $f(d)$ is the amount of sales tax on an item of clothing that sells for d dollars.

B. $g(t)$ is the number of students waiting in line at the UA Catcard Office on the first day of classes as a function of time (since the office opened that morning).

C. $h(x) = x + \cos x$

4. What families of functions are invertible? Are all members of that family invertible or are there exceptions?