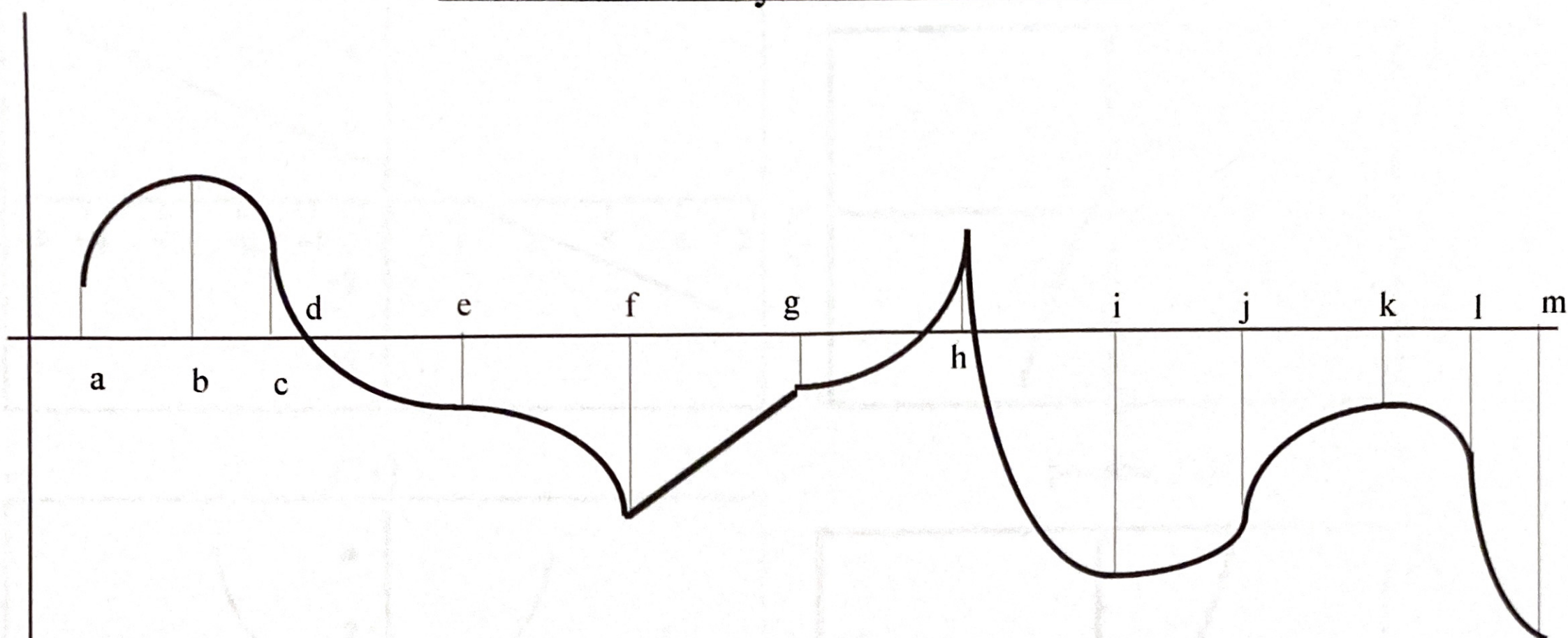


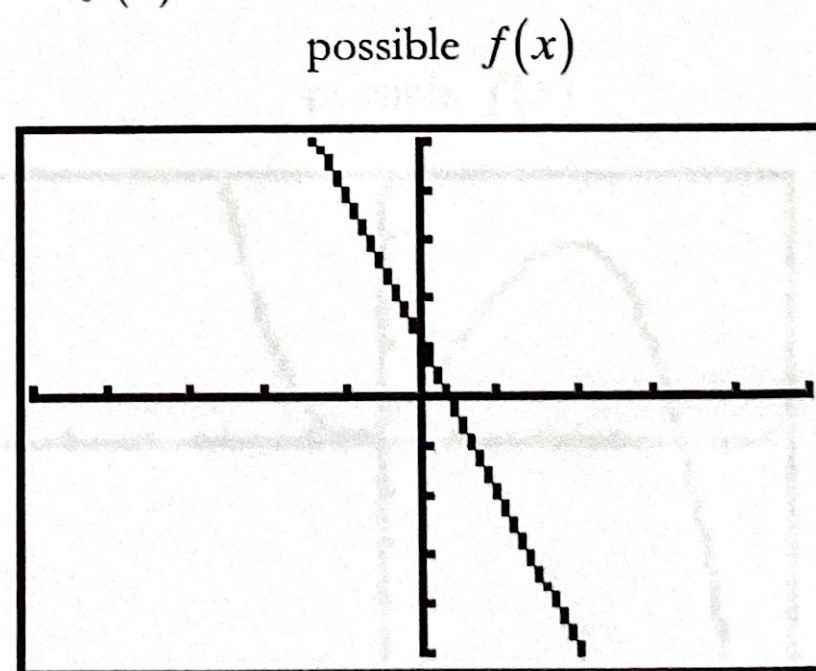
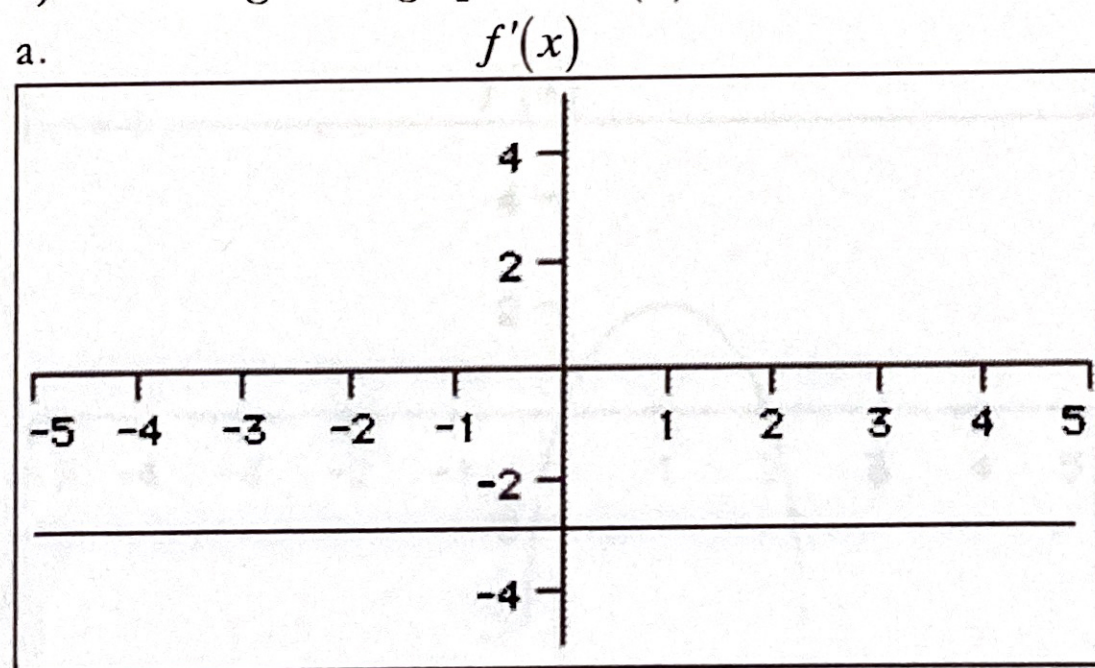
Function Analysis - Homework



1. For each term, determine if it is applicable at the x -values a - m.

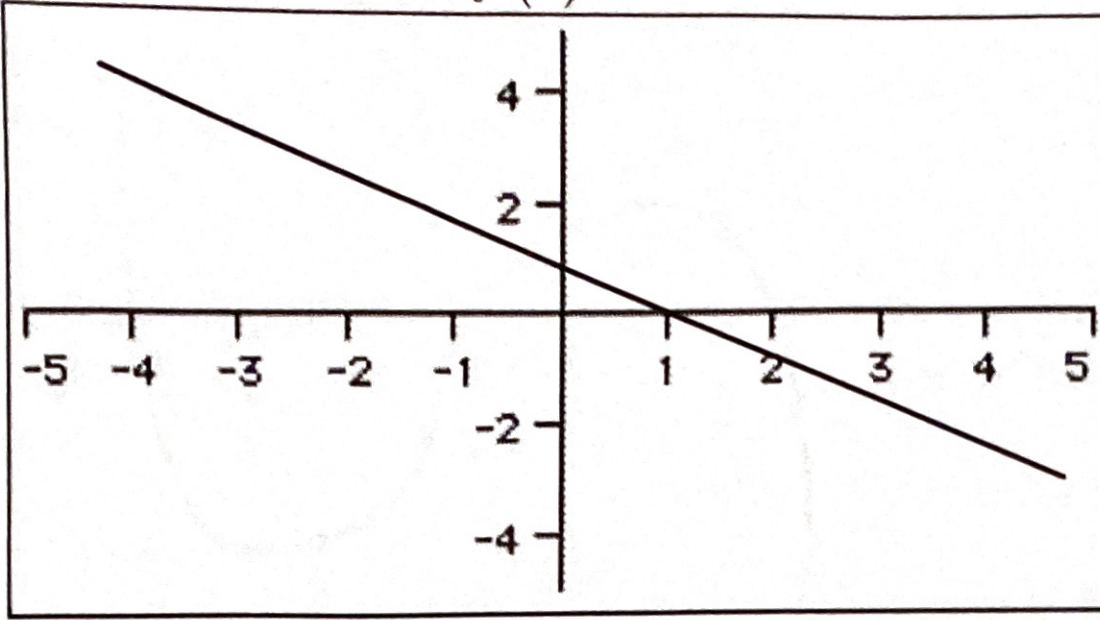
	Critical Point	Relative Minimum	Relative Maximum	Stationary Point	Inflection Point	Absolute Minimum	Absolute Maximum
a	x						
b	x		x	x			x
c	x				x		
d							
e	x			x	x		
f	x	x					
g	x						
h	x		x				
i	x	x		x			
j	x				x		
k	x		x	x			
l	x				x		
m						x	

2) You are given a graph of $f'(x)$. Draw a picture of a possible $f(x)$.

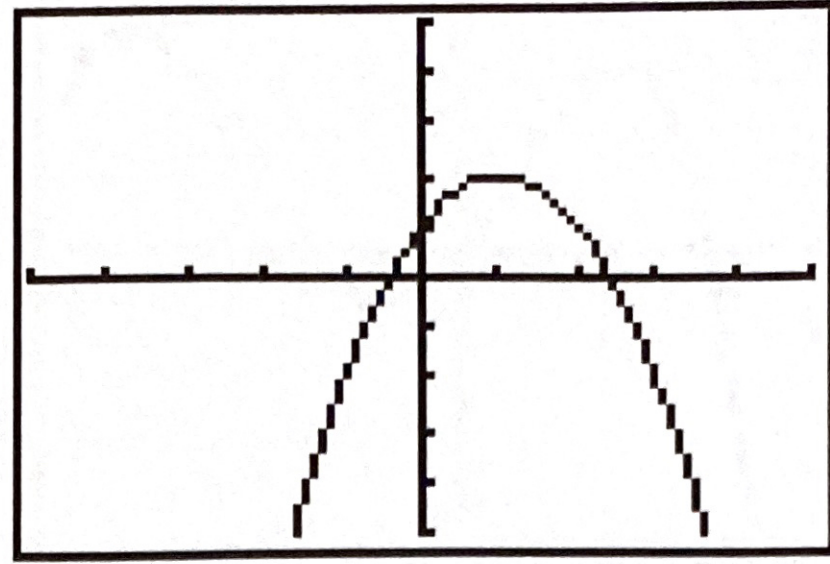


b.

$f'(x)$

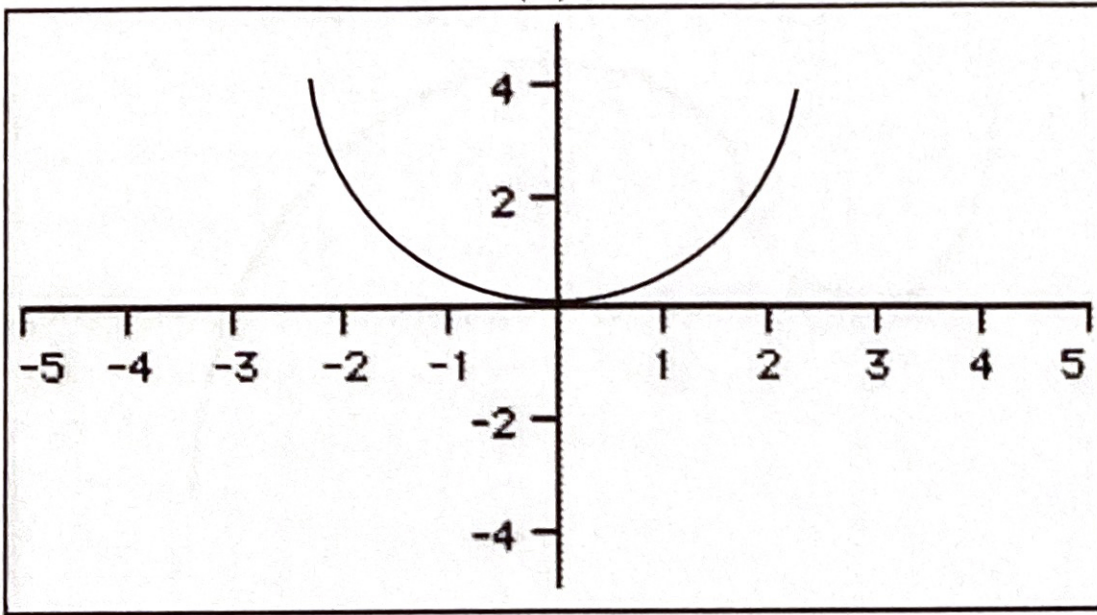


possible $f(x)$

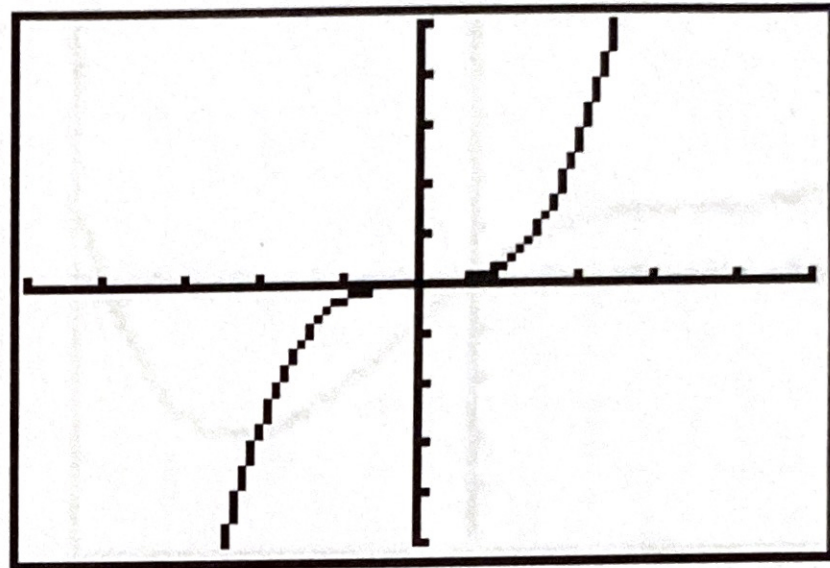


c.

$f'(x)$

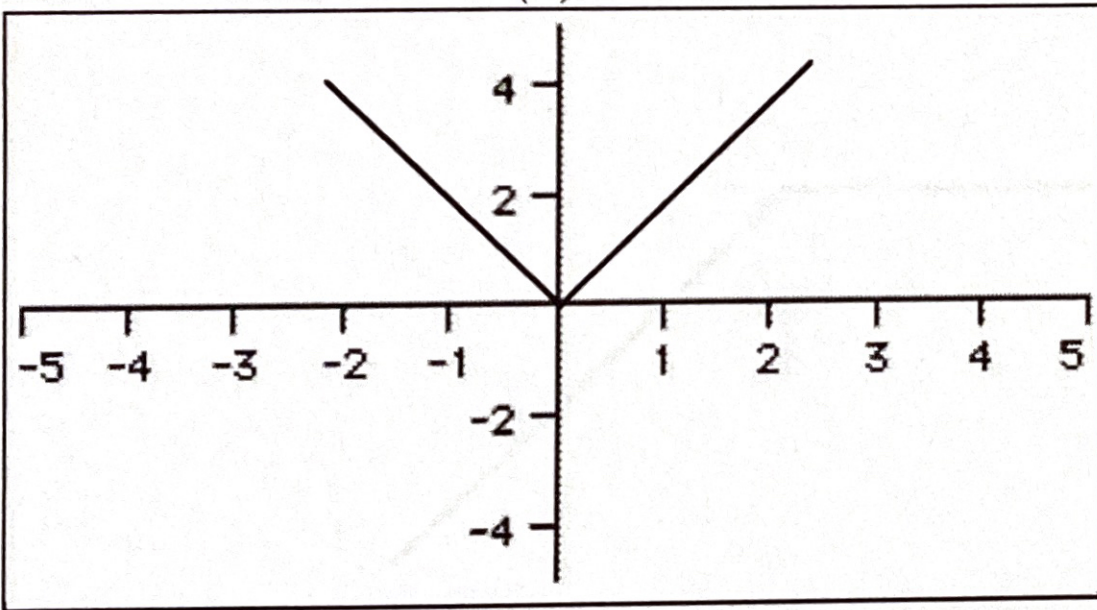


possible $f(x)$

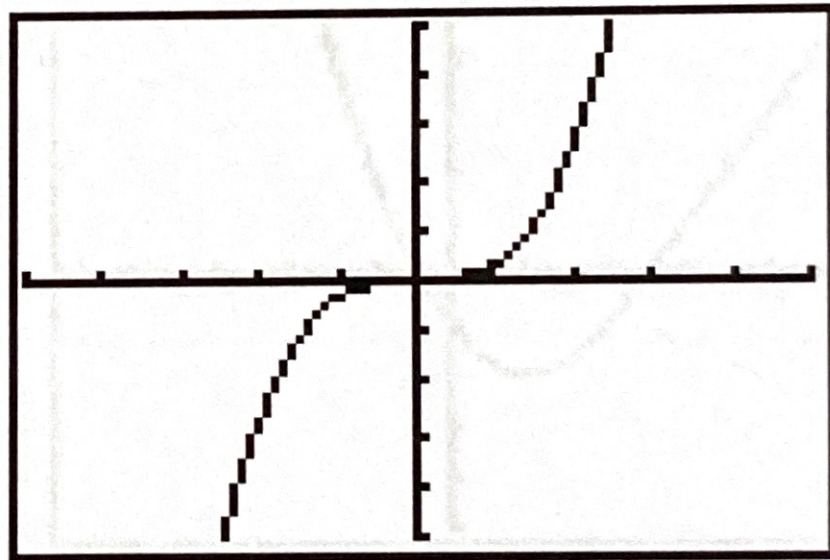


d.

$f'(x)$

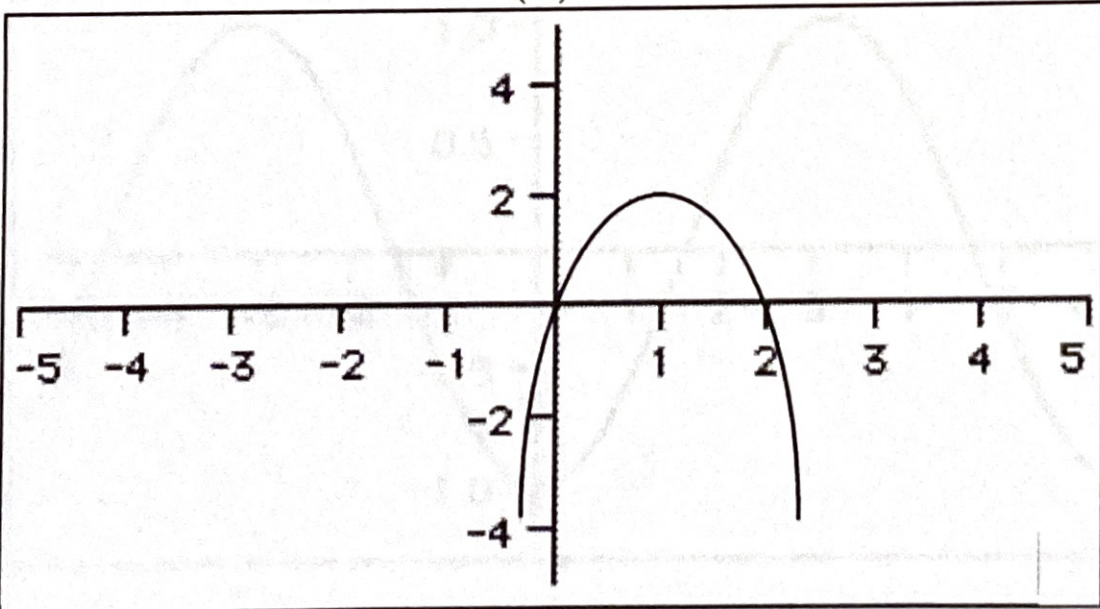


possible $f(x)$

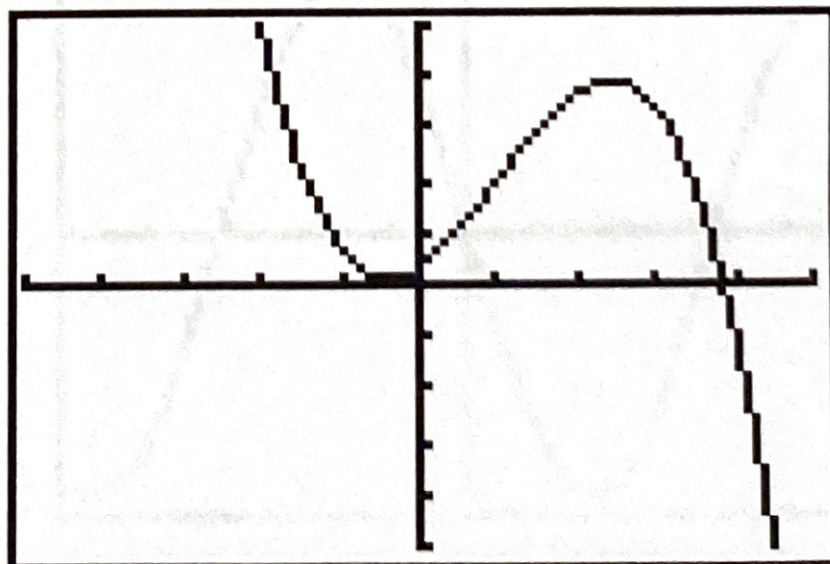


e.

$f'(x)$

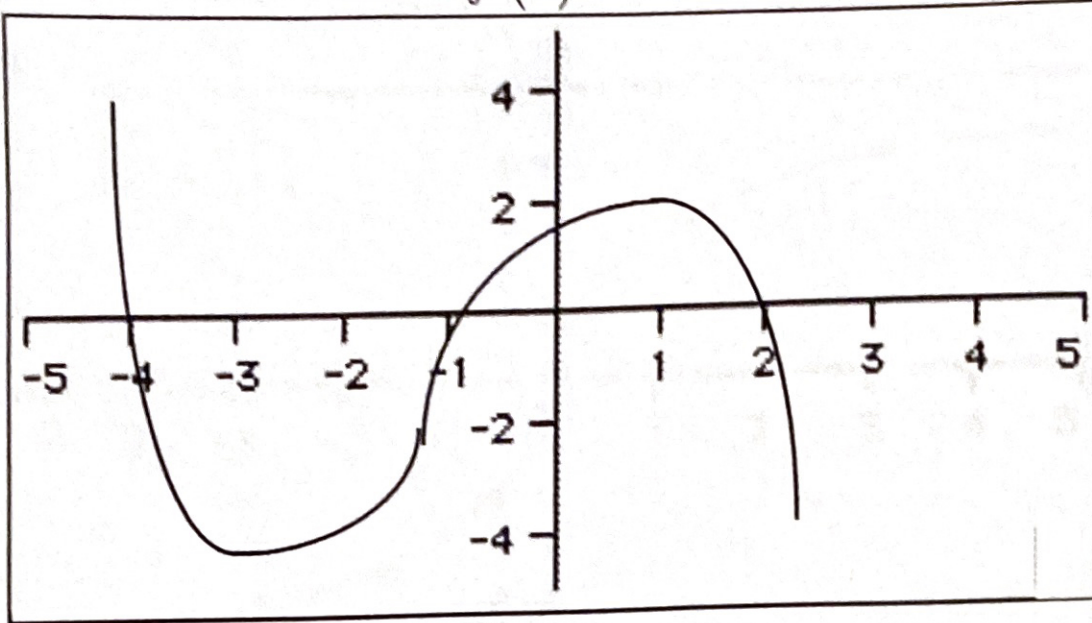


possible $f(x)$

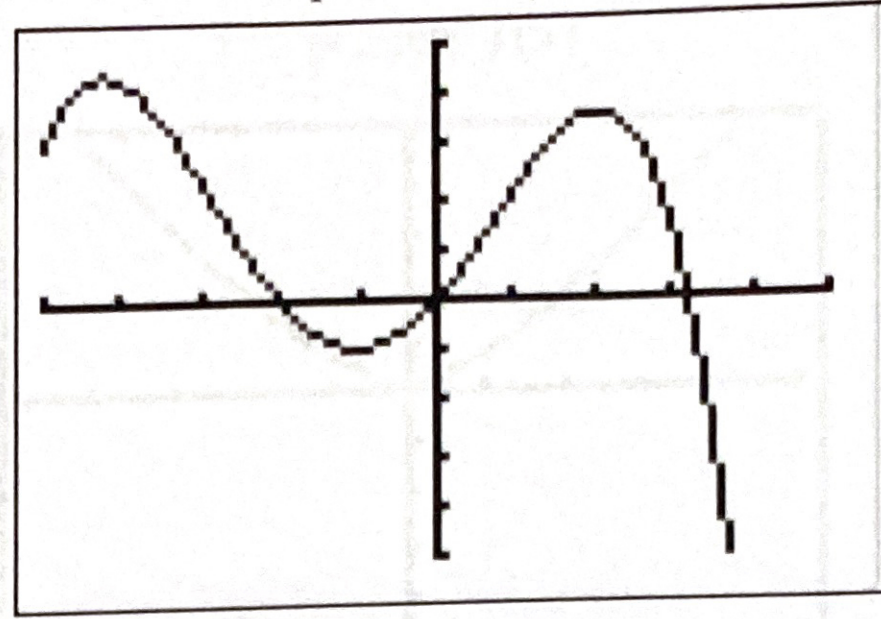


f.

$f'(x)$

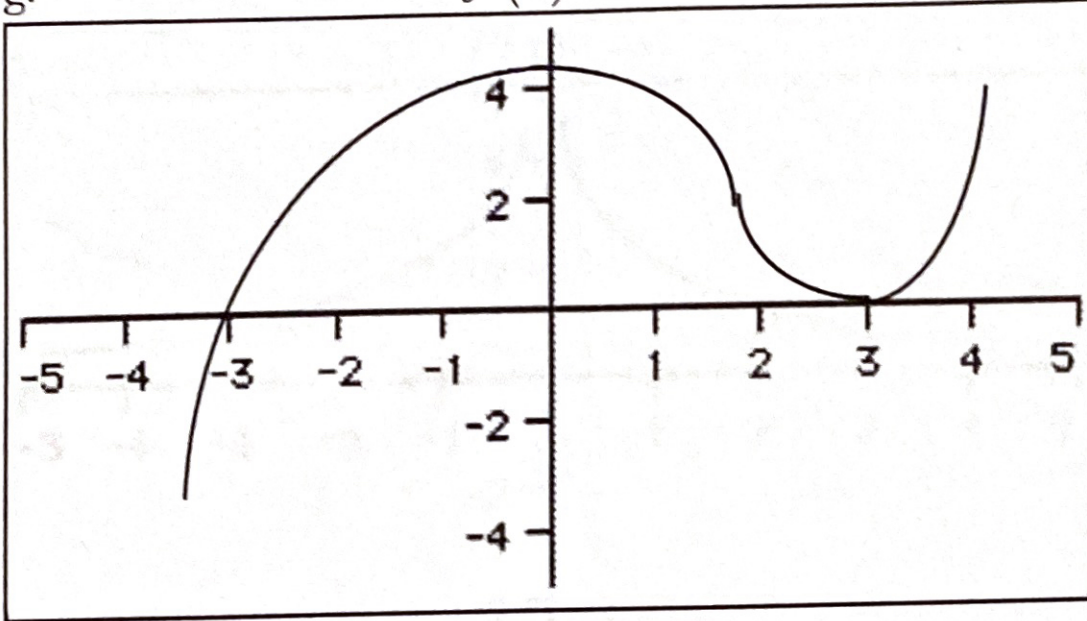


possible $f(x)$

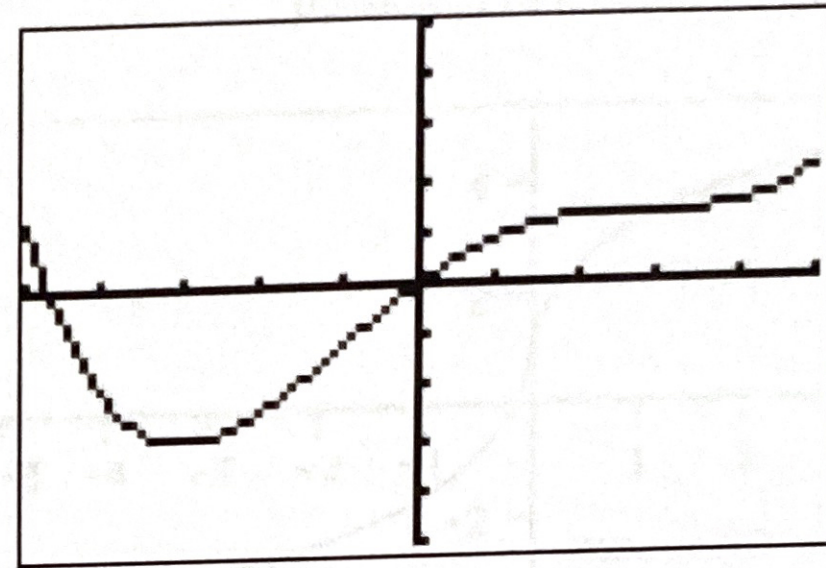


g.

$f'(x)$

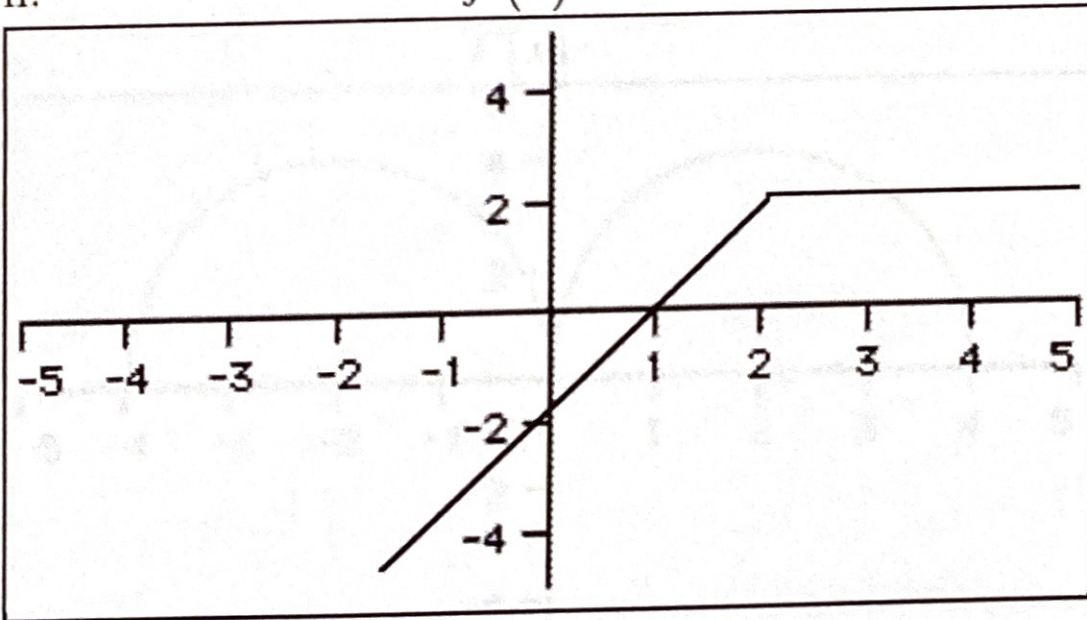


possible $f(x)$

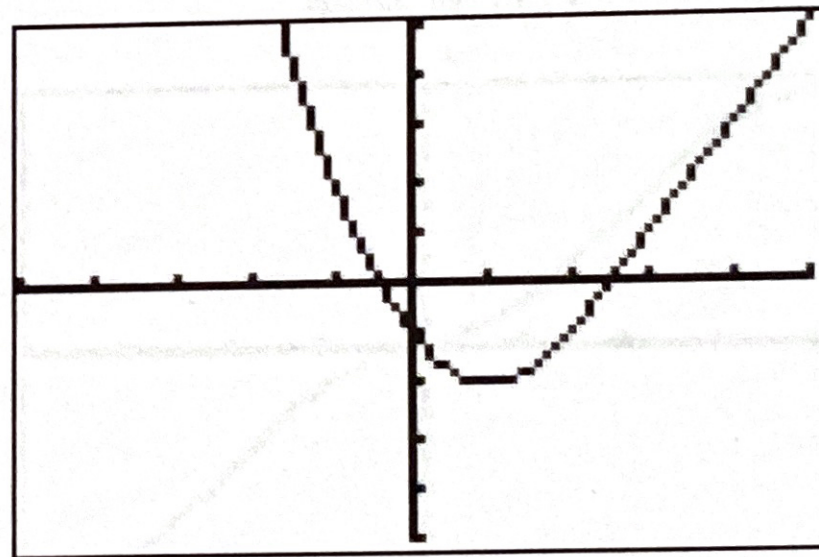


h.

$f'(x)$

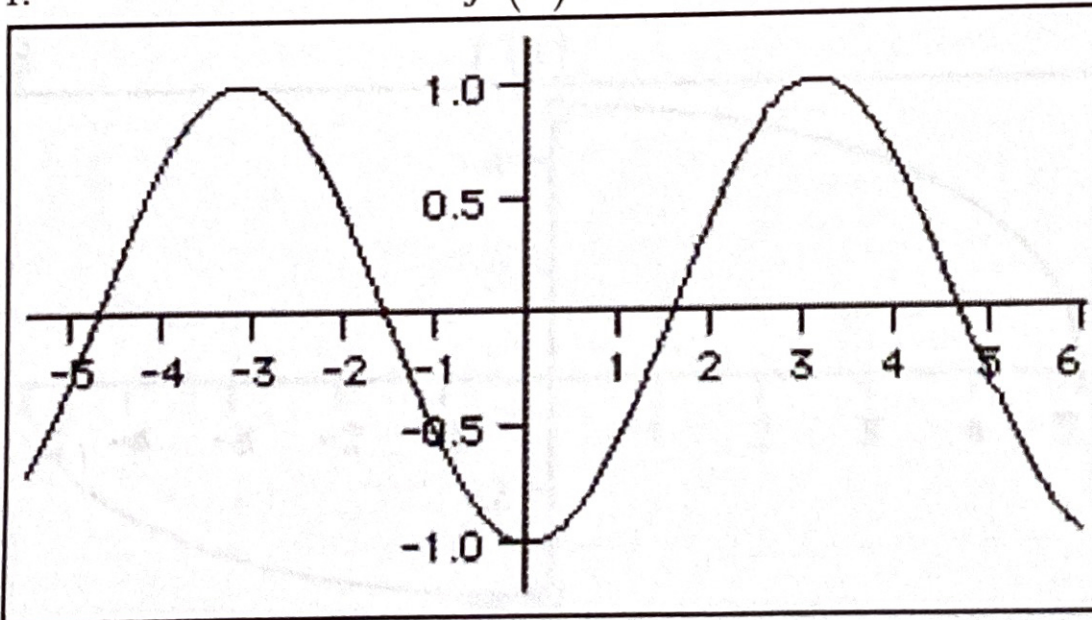


possible $f(x)$

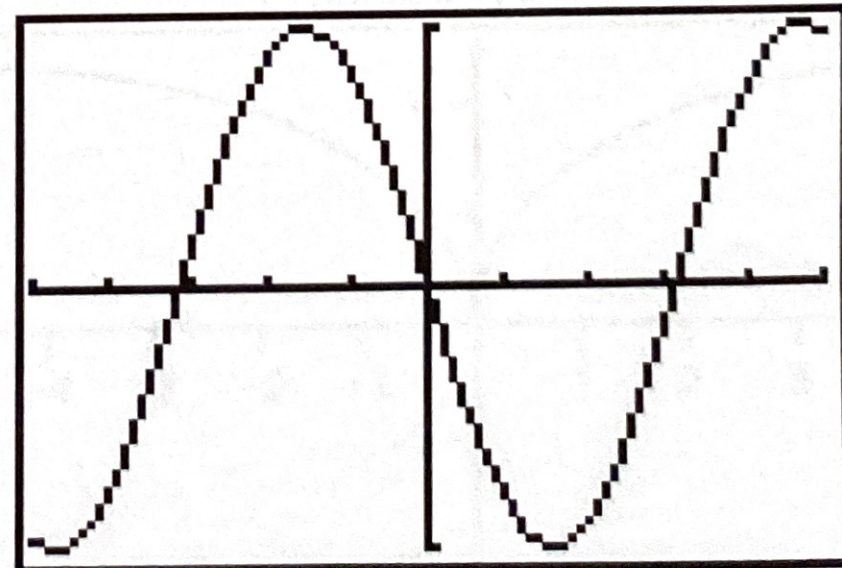


i.

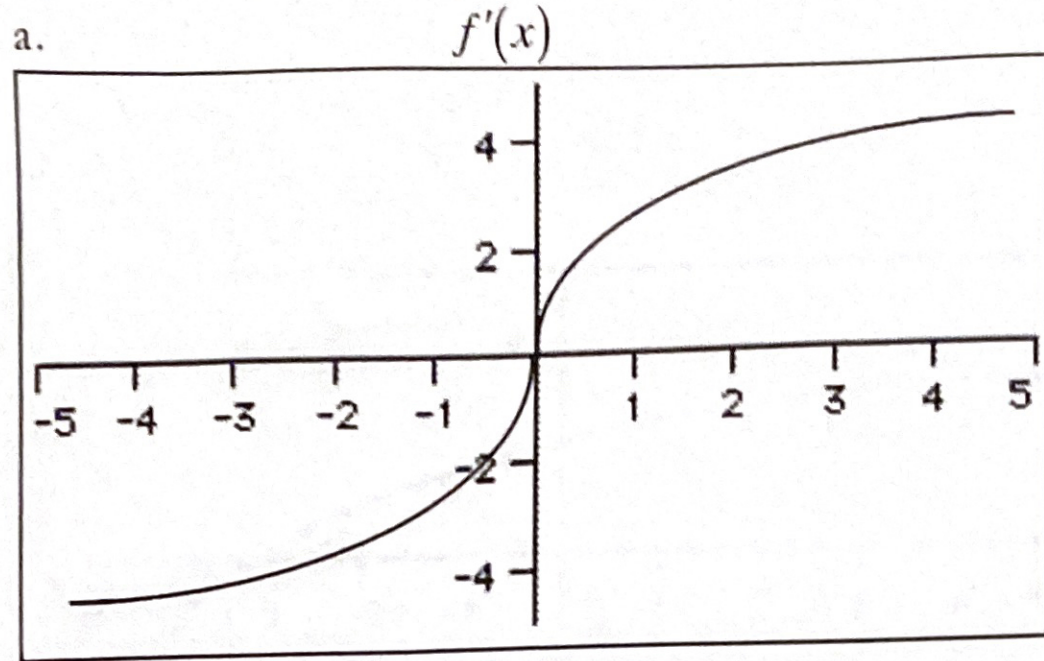
$f'(x)$



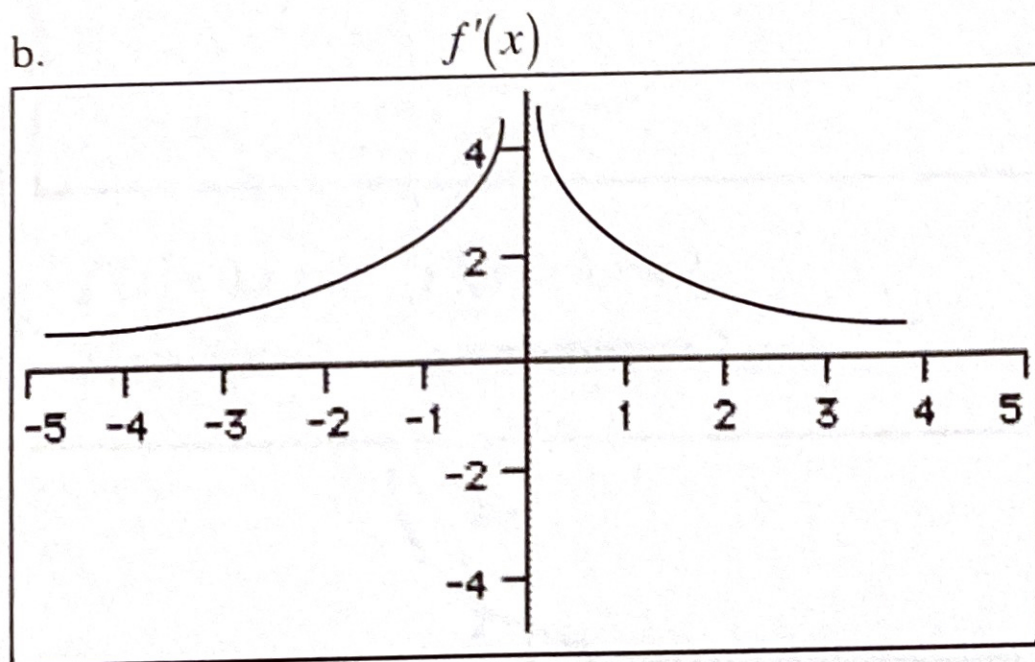
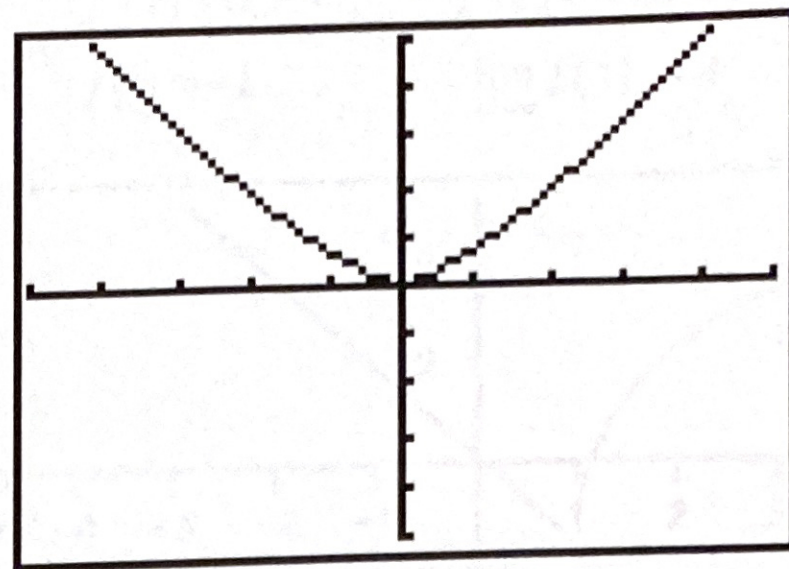
possible $f(x)$



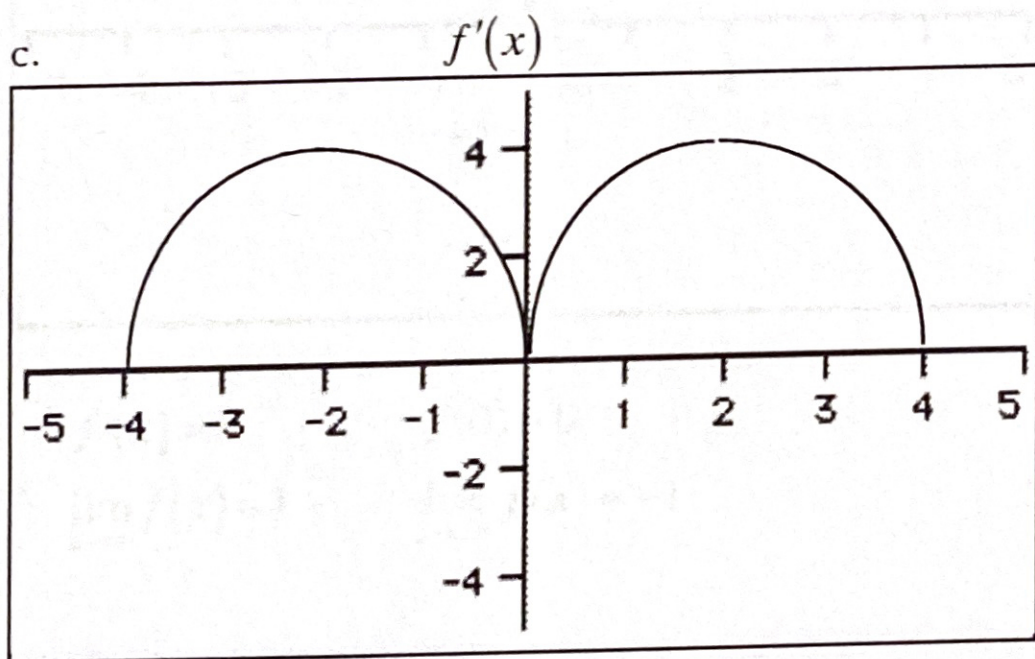
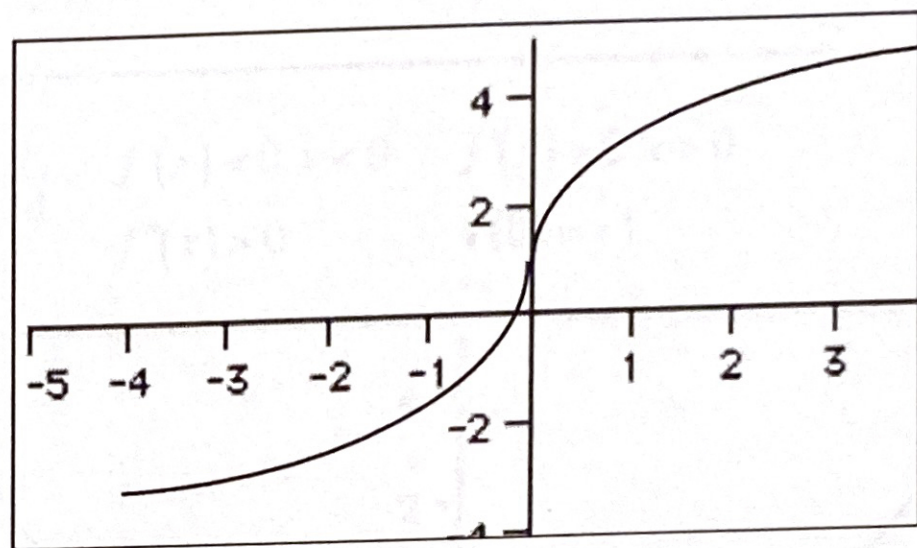
3) You are given a graph of $f'(x)$. Draw a picture of a possible $f(x)$.



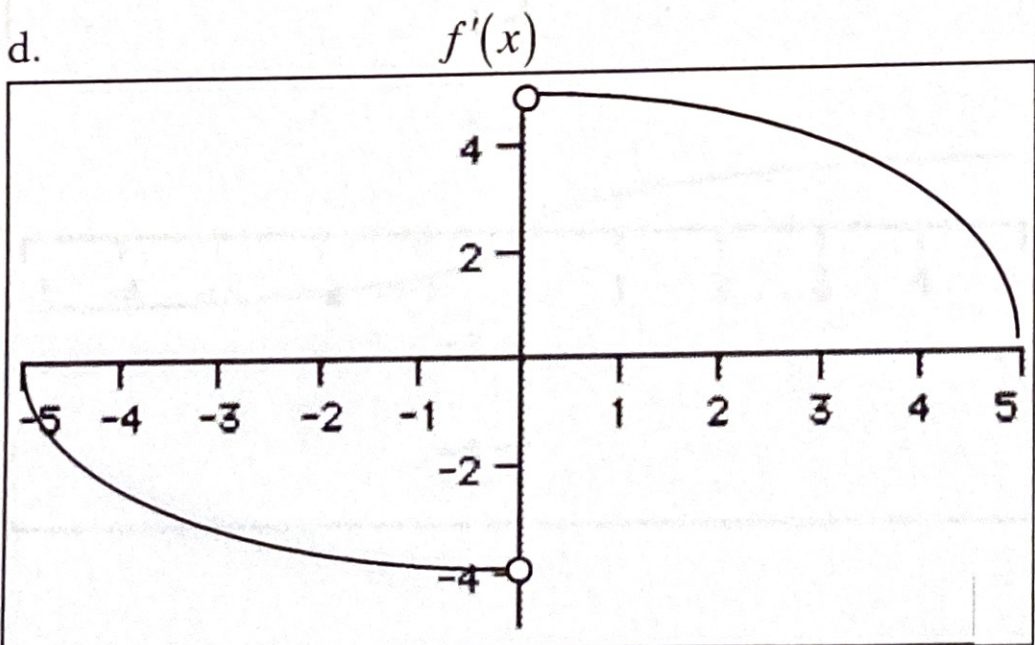
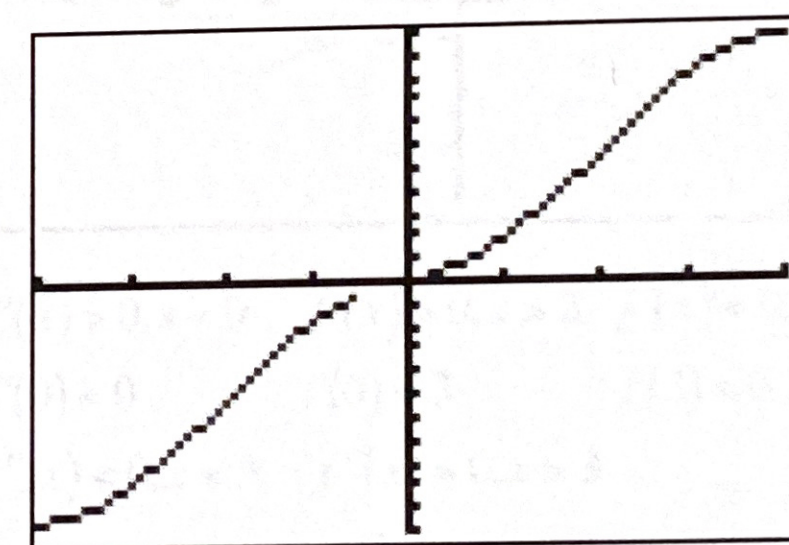
possible $f(x)$



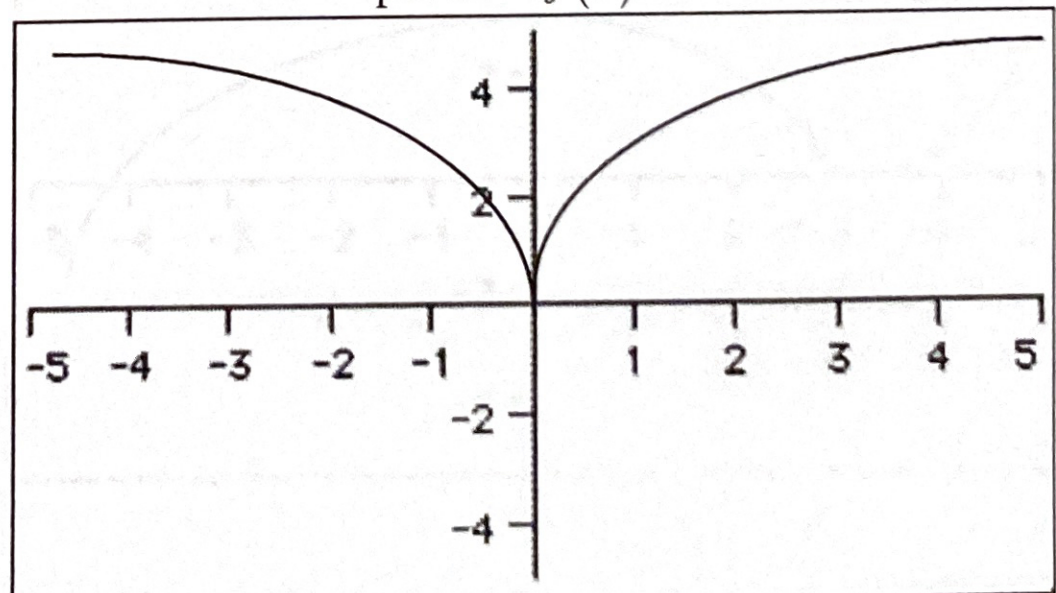
possible $f(x)$



possible $f(x)$



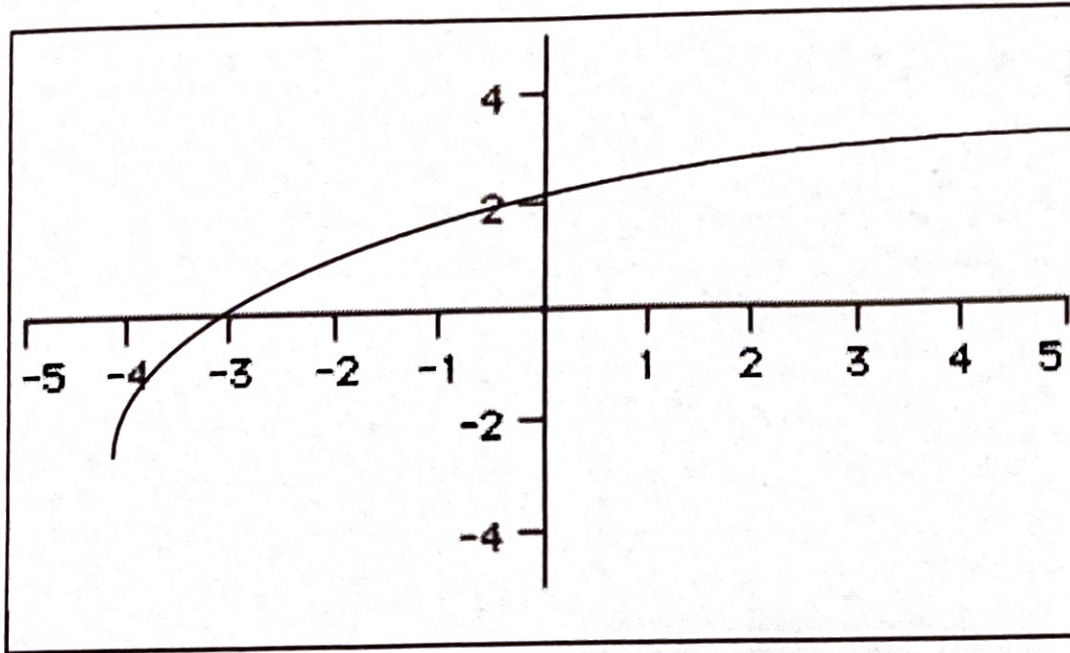
possible $f(x)$



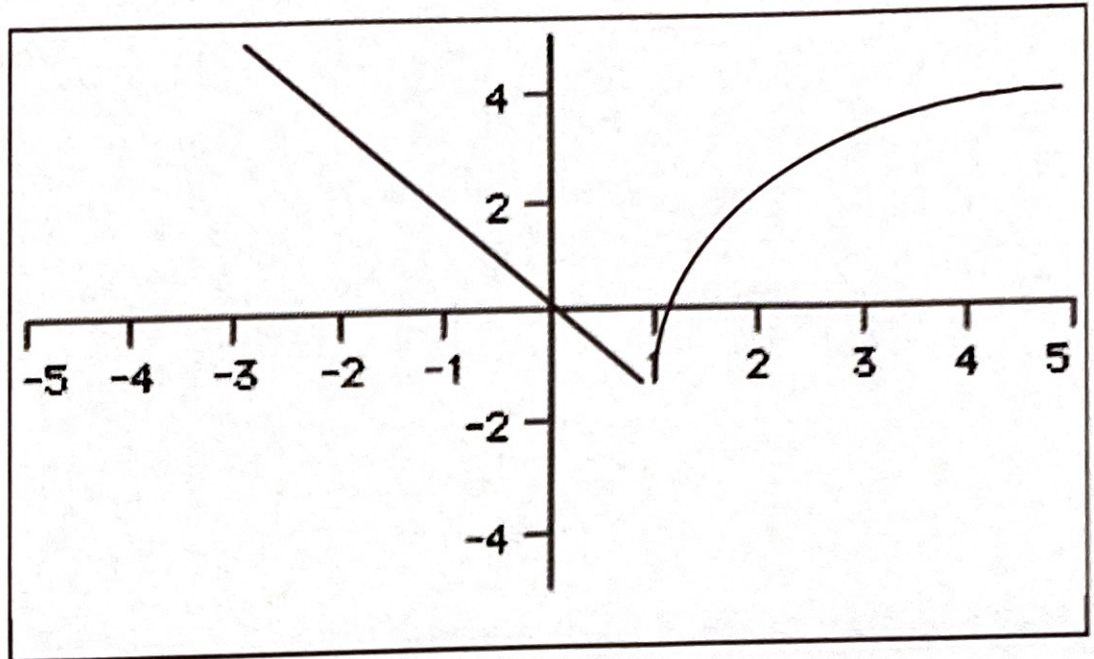
key

4) Sketch a possible $f(x)$ given the following information.

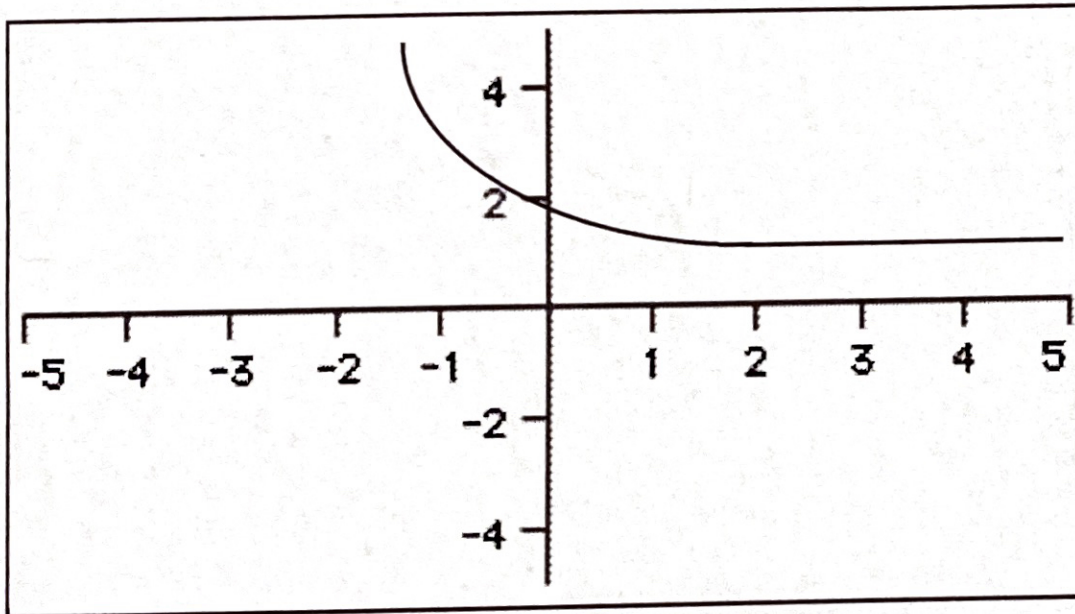
a. $f'(x) > 0, f''(x) < 0$
 $f(0) = 2$



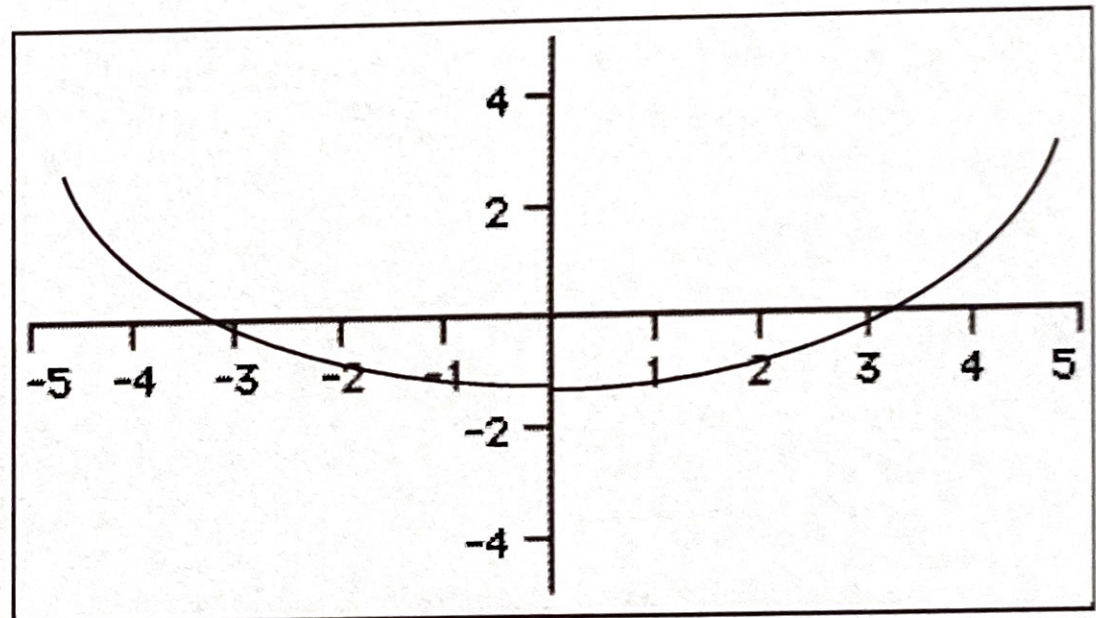
b. $f'(x) > 0, x > 1, f'(x) = -1, x < 1$
 $f(1) = -1, \lim_{x \rightarrow \infty} f(x) = 4$



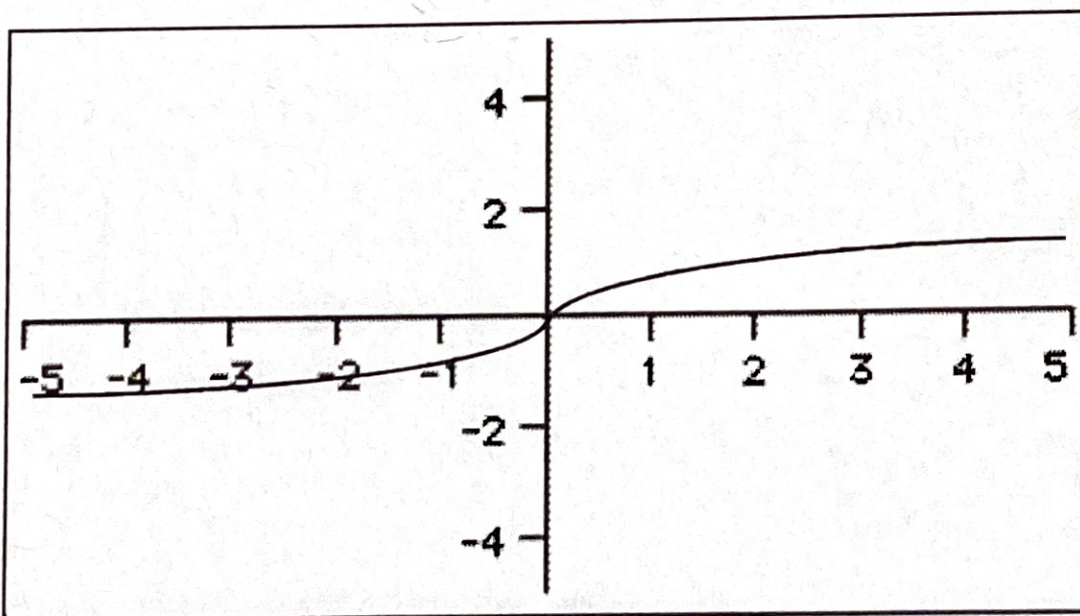
c. $f'(x) < 0, x < 2, f''(x) > 0, x < 2$
 $f(x) = 1, x \geq 2, y\text{-intercept} = 2$



d. $f'(x) < 0, x < 0, f'(x) > 0, x > 0$
 $f''(x) > 0, f(0) = -1$



e. $f'(x) > 0, f(0) = 0$
 $\lim_{x \rightarrow \infty} f(x) = 1, \lim_{x \rightarrow -\infty} f(x) = -1$



f. $f'(x) > 0, x < 0, f'(x) > 0, x > 3, f'(x) < 0, 0 < x < 3$
 $f'(0) = 0, f(0) = 3, f(3) = 0$
 $f''(x) < 0, x < 3, f''(x) > 0, x > 3$

