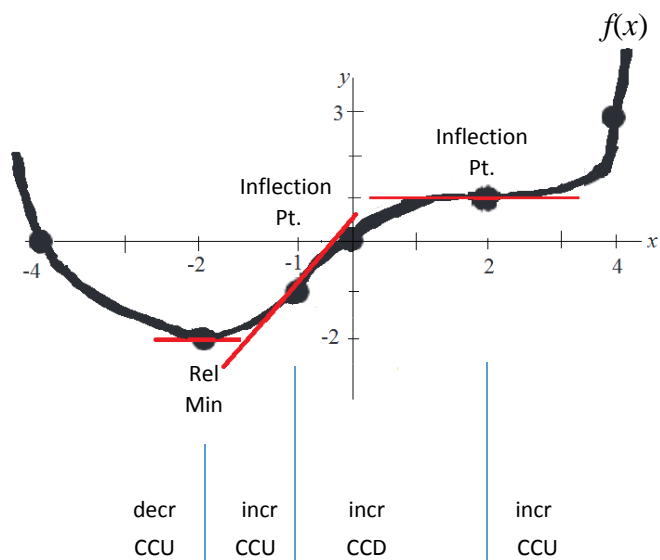
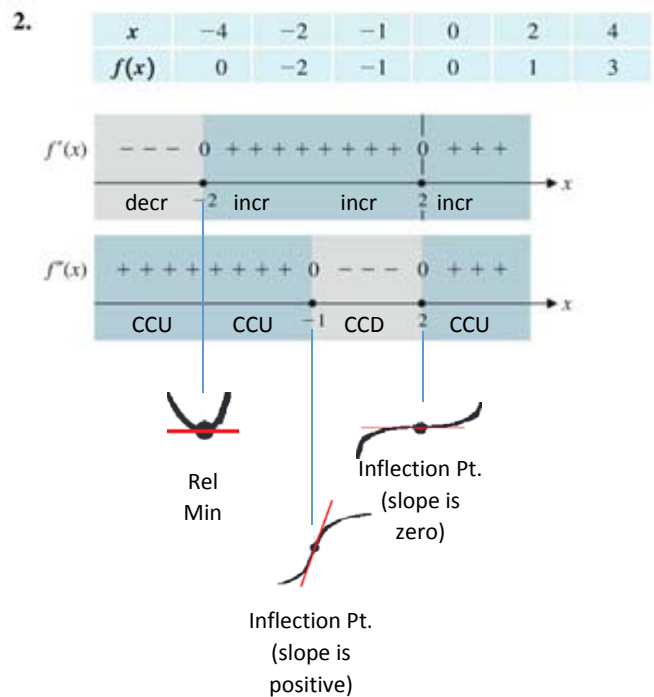
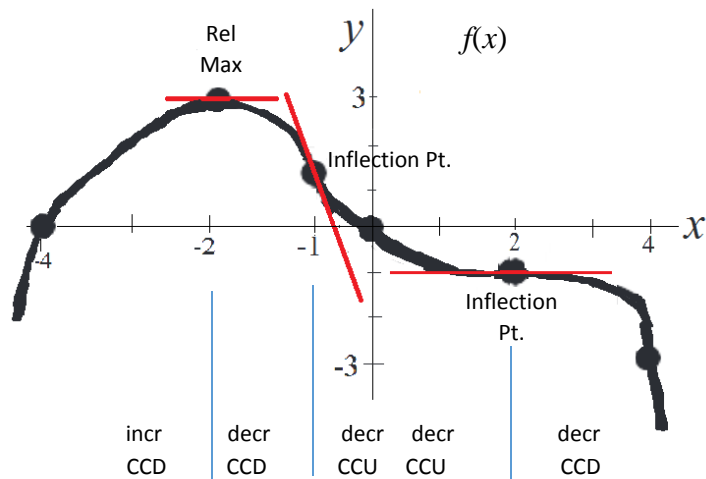
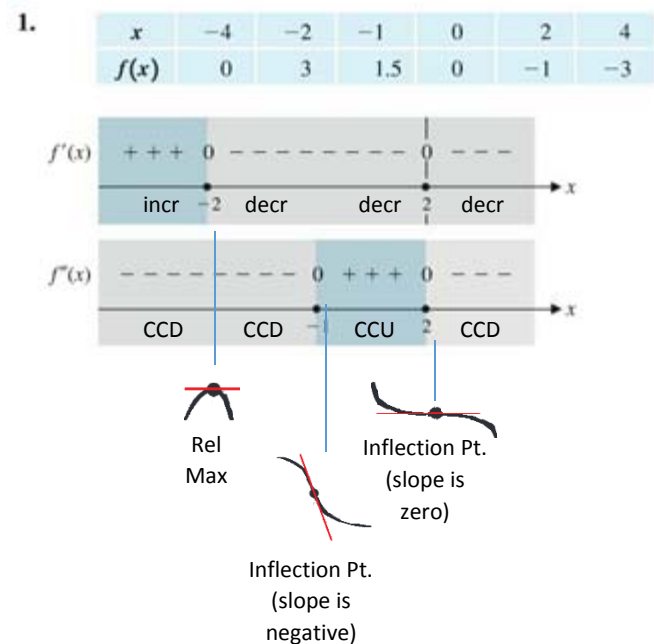


## Section 4.4 Curve Sketching:

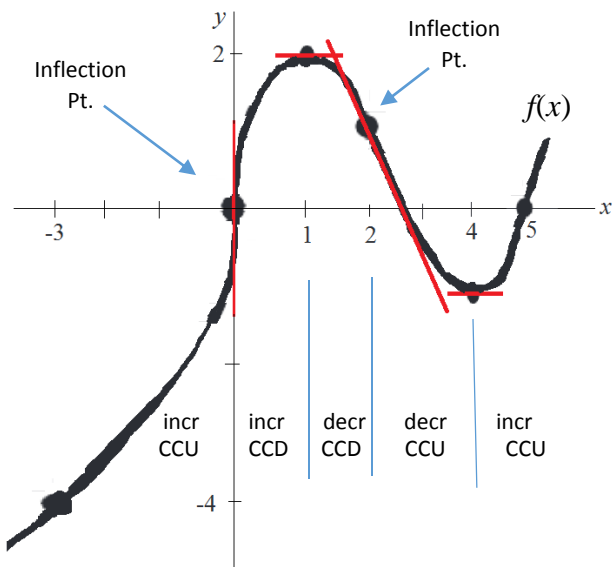
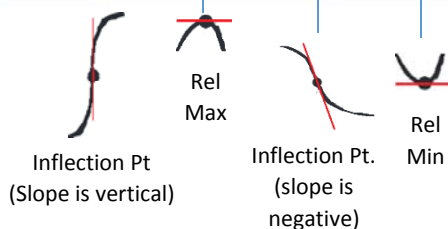
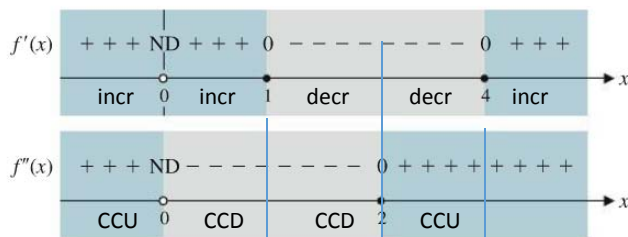
Assume  $f(x)$  is continuous. Use the given information to sketch a possible graph.



This is very similar to a horizontal reflection of the function in #1.

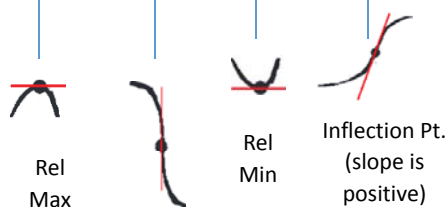
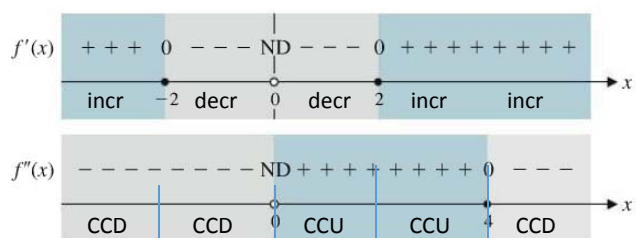
3.

$x$	-3	0	1	2	4	5
$f(x)$	-4	0	2	1	-1	0

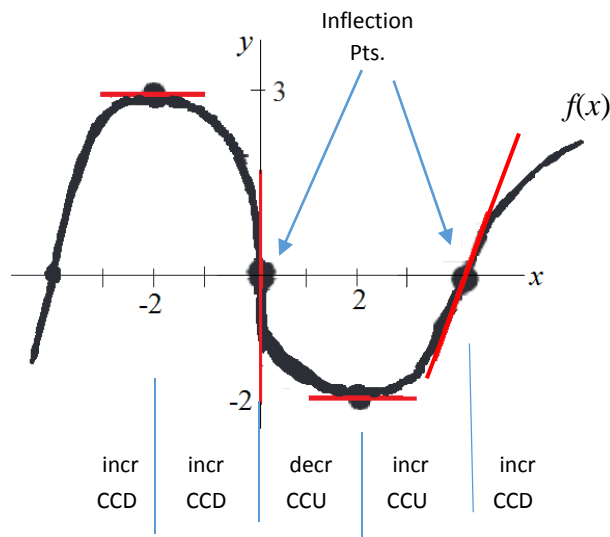


4.

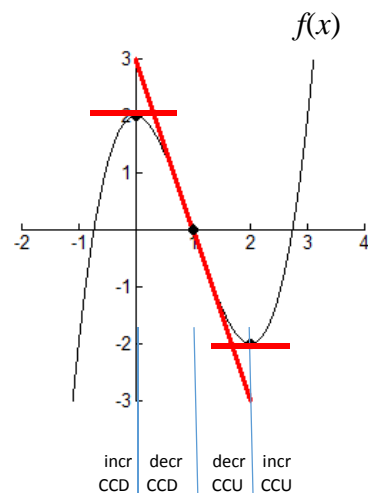
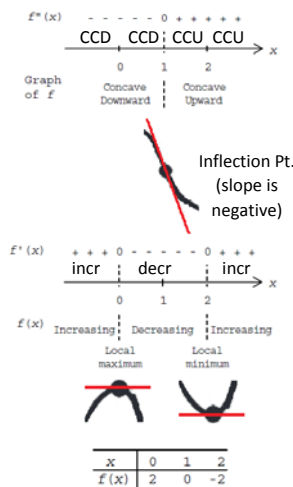
$x$	-4	-2	0	2	4	6
$f(x)$	0	3	0	-2	0	3



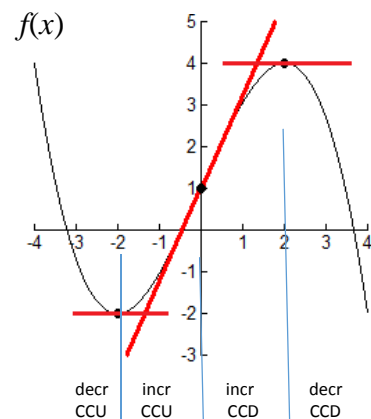
Inflection Pt. (Slope is vertical)



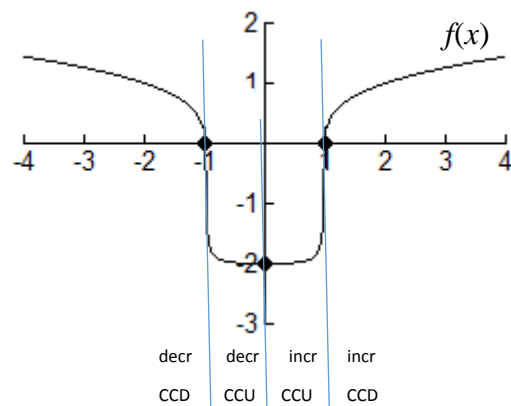
5.  $f(0) = 2, f(1) = 0, f(2) = -2$ ;  
 $f'(0) = 0, f'(2) = 0$ ;  
 $f'(x) > 0$  on  $(-\infty, 0)$  and  $(2, \infty)$ ;  
 $f'(x) < 0$  on  $(0, 2)$ ;  
 $f''(1) = 0$ ;  
 $f''(x) > 0$  on  $(1, \infty)$ ;  
 $f''(x) < 0$  on  $(-\infty, 1)$



6.  $f(-2) = -2, f(0) = 1, f(2) = 4;$   
 $f'(-2) = 0, f'(2) = 0;$   
 $f'(x) > 0$  on  $(-2, 2);$   
 $f'(x) < 0$  on  $(-\infty, -2)$  and  $(2, \infty);$   
 $f''(0) = 0;$   
 $f''(x) > 0$  on  $(-\infty, 0);$   
 $f''(x) < 0$  on  $(0, \infty)$



7.  $f(-1) = 0, f(0) = -2, f(1) = 0;$   
 $f'(0) = 0, f'(-1)$  and  $f'(1)$  are not defined;  
 $f'(x) > 0$  on  $(0, 1)$  and  $(1, \infty);$   
 $f'(x) < 0$  on  $(-\infty, -1)$  and  $(-1, 0);$   
 $f''(-1)$  and  $f''(1)$  are not defined;  
 $f''(x) > 0$  on  $(-1, 1);$   
 $f''(x) < 0$  on  $(-\infty, -1)$  and  $(1, \infty)$



8.  $f(0) = -2, f(1) = 0, f(2) = 4;$   
 $f'(0) = 0, f'(2) = 0, f'(1)$  is not defined;  
 $f'(x) > 0$  on  $(0, 1)$  and  $(1, 2);$   
 $f'(x) < 0$  on  $(-\infty, 0)$  and  $(2, \infty);$   
 $f''(1)$  is not defined;  
 $f''(x) > 0$  on  $(-\infty, 1);$   
 $f''(x) < 0$  on  $(1, \infty)$

