

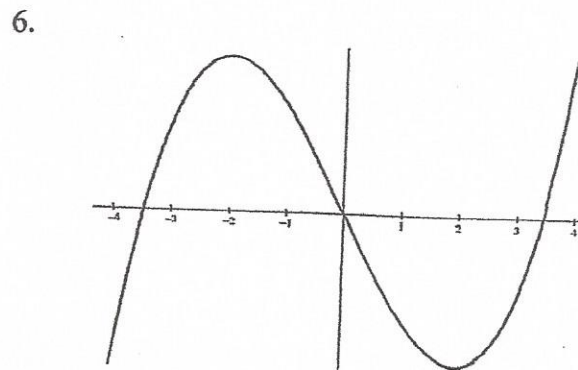
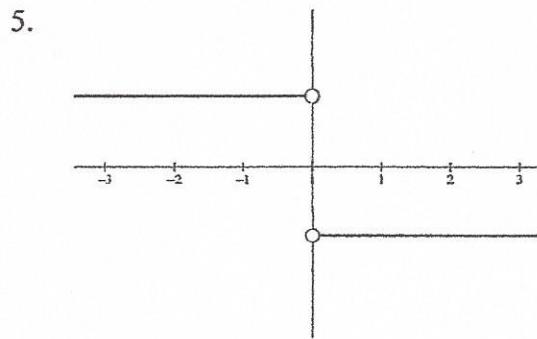
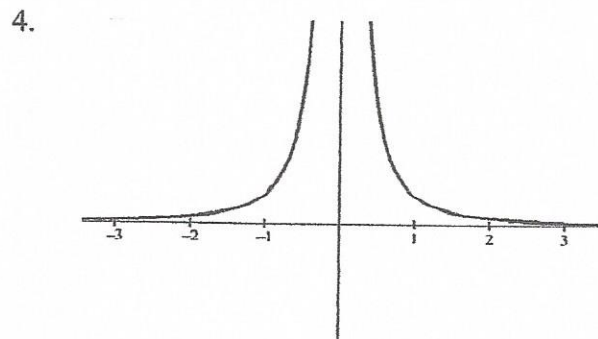
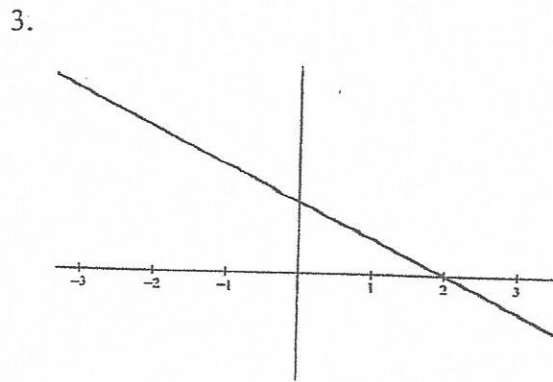
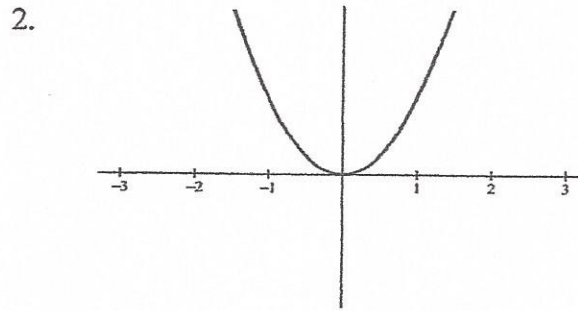
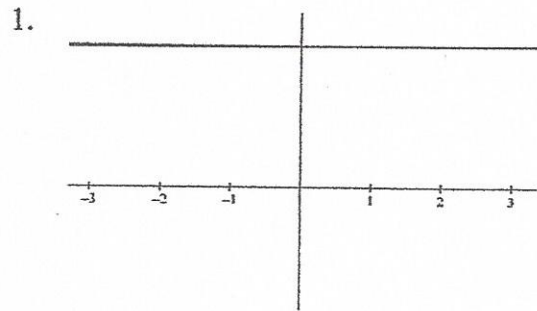
~Worksheet 3-8B

Each graph represents $f'(x)$, the derivative of a function $f(x)$.

a) Make an f' number line by using the location or position of the points on the f' graph. This does not involve the slopes of f' . You are finding the intervals where $f(x)$ is increasing or decreasing

b) Make an f'' number line by using the slopes of the f' graph. You are finding the intervals where $f(x)$ is concave up or concave down.

c) Combine information from both number lines to graph f . If no starting point is given, you are free to shift the graph vertically.



(Adopted from FDWK's Calculus)

In the next two exercises,

- Find the absolute extrema of f and where they occur.
- Find any points of inflection.
- Sketch a possible graph of f .

7. $f(x)$ is continuous on $[0, 3]$ and satisfies the following:

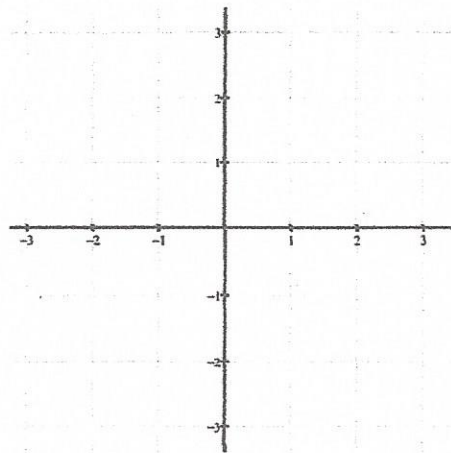
x	0	1	2	3
f	0	2	0	-2
f'	3	0	DNE	-3
f''	0	-1	DNE	0

x	$0 < x < 1$	$1 < x < 2$	$2 < x < 3$
f	+	+	-
f'	+	-	-
f''	-	-	-

a)

b)

c)



8. $f(x)$ is an even function, continuous on $[-3, 3]$ and satisfies the following:

x	0	1	2
f	2	0	-1
f'	DNE	0	DNE
f''	DNE	0	DNE

x	$0 < x < 1$	$1 < x < 2$	$2 < x < 3$
f	+	-	-
f'	-	-	+
f''	+	-	-

a)

b)

c)

