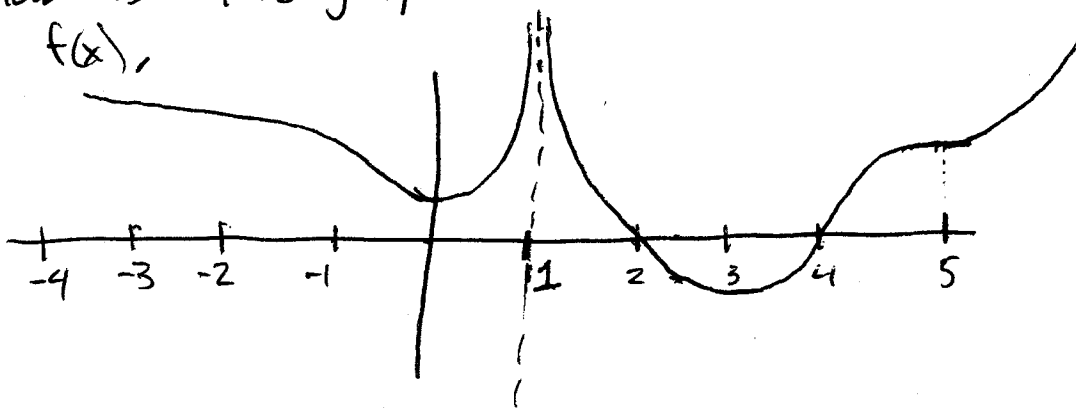


Quiz #11:

1. Below is the graph of the first derivative of $f(x)$,



- 2pt. a) What are the intervals of inc./dec.?

	$(-\infty, 1)$	$(1, 2)$	$(2, 4)$	$(4, \infty)$
f'	+	+	-	+
f	inc.	inc.	dec.	inc.

- b) Suppose that $f(1)=2$. What are the critical numbers?

1pt. $x = 1, 2, 4$

- 2pt. c) Locate the local extrema of $f(x)$.

f has a local max at $x=2$.

f has a local min at $x=4$.

- 2pt. d) On which intervals is $f(x)$ concave up / concave down?

	$(-\infty, 0)$	$(0, 1)$	$(1, 3)$	$(3, 5)$	$(5, \infty)$
f''	-	+	-	+	+
f	CD	CU	CD	CU	CU

CD = concave down

CU = concave up

- 2pt. e) Identify the inflection points.

f has inflection points at $x=0, 1, 3$.

- 1pt. f) Sketch the graph of $f(x)$, given that $f(1)=0$.

