10. [10 points] Some information about a function $f(x)$ is given in the table below.

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

Assume that $f''(x)$ is continuous on $[-2, 4]$ and that the values of $f'(x)$ and $f''(x)$ are strictly positive or strictly negative between consecutive table entries. You do not need to justify your answers to the following questions.

a. [2 points] Circle all of the intervals on which $f''(x)$ must be negative.

$-2 < x < -1$ $\quad$ $-1 < x < 0$ $\quad$ $0 < x < 1$ $\quad$ $1 < x < 2$

$2 < x < 3$ $\quad$ $3 < x < 4$ $\quad$ NONE OF THESE

b. [2 points] Circle all of the values of x for which $f(x)$ must have a local minimum.

$x = -1$ $\quad$ $x = 0$ $\quad$ $x = 1$ $\quad$ $x = 2$ $\quad$ $x = 3$ $\quad$ NONE OF THESE

c. [2 points] Circle all of the values of x for which $f(x)$ must have an inflection point.

$x = -1$ $\quad$ $x = 0$ $\quad$ $x = 1$ $\quad$ $x = 2$ $\quad$ $x = 3$ $\quad$ NONE OF THESE

d. [2 points] At which value(s) of x does $f(x)$ have a global maximum on $[1, 4]$?

$x = 1$ $\quad$ $x = 2$ $\quad$ $x = 3$ $\quad$ $x = 4$ $\quad$ NONE OF THESE $\quad$ CANNOT BE DETERMINED

e. [2 points] At which value(s) of x does $f(x)$ have a global minimum on $[1, 4]$?

$x = 1$ $\quad$ $x = 2$ $\quad$ $x = 3$ $\quad$ $x = 4$ $\quad$ NONE OF THESE $\quad$ CANNOT BE DETERMINED