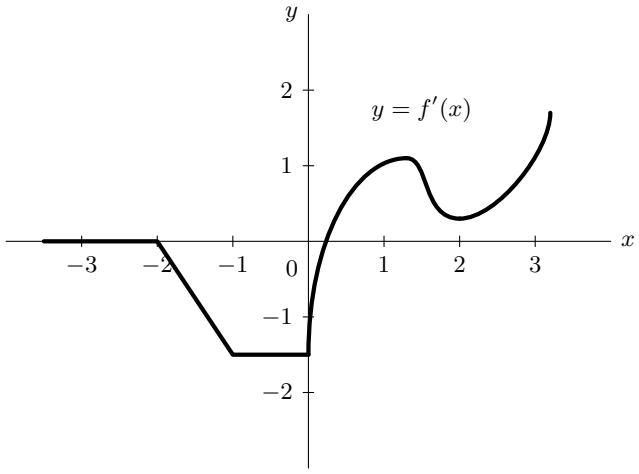
10. [10 points] Below is the graph of $f'(x)$, the **derivative** of the function $f(x)$.

Note that $f'(x)$ is zero for $x \leq -2$, linear for $-2 < x < -1$, and constant for $-1 < x < 0$.



For each of the following, circle all of the listed intervals for which the given statement is true over the **entire** interval. If there are no such intervals, circle NONE.
You do not need to explain your reasoning.

a. [2 points] $f'(x)$ is increasing.

$-2 < x < -1$ $\boxed{0 < x < 1}$ $1 < x < 2$ $\boxed{2 < x < 3}$ NONE

b. [2 points] $f'(x)$ is concave up.

$0 < x < 1$ $1 < x < 2$ $\boxed{2 < x < 3}$ NONE

c. [2 points] $f(x)$ is increasing.

$-2 < x < -1$ $-1 < x < 0$ $0 < x < 1$ $\boxed{1 < x < 2}$ $\boxed{2 < x < 3}$ NONE

d. [2 points] $f(x)$ is linear but not constant.

$-3 < x < -2$ $-2 < x < -1$ $\boxed{-1 < x < 0}$ $0 < x < 1$ $1 < x < 2$ $2 < x < 3$ NONE

e. [2 points] $f(x)$ is constant.

$-3 < \boxed{x < -2}$ $-2 < x < -1$ $-1 < x < 0$ $0 < x < 1$ $1 < x < 2$ $2 < x < 3$ NONE