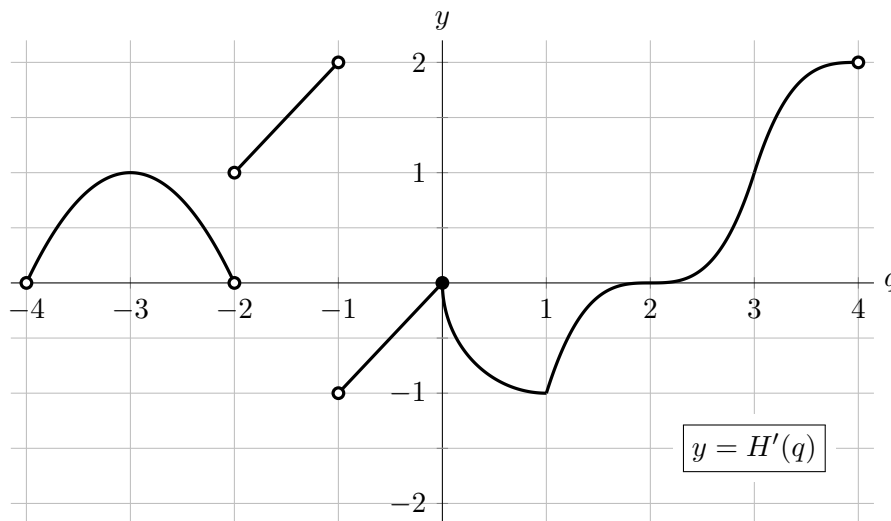


6. [11 points] Suppose $H(q)$ is a **continuous** function defined everywhere on the interval $(-4, 4)$. A graph of the **derivative** $H'(q)$ is given below.



- a. [2 points] Circle all intervals listed below on which $H(q)$ is **increasing**.

☒ $(-4, -3)$ ☒ $(-3, -2)$ ☐ $(0, 1)$ ☐ $(1, 2)$ ☒ $(2, 3)$ NONE OF THESE

- b. [2 points] Circle all intervals listed below on which $H(q)$ is **concave down**.

☐ $(-4, -3)$ ☒ $(-3, -2)$ ☒ $(0, 1)$ ☐ $(1, 2)$ ☐ $(2, 3)$ NONE OF THESE

- c. [2 points] Circle all intervals listed below on which $H''(q)$ is **decreasing**.

☒ $(-4, -3)$ ☒ $(-3, -2)$ ☐ $(0, 1)$ ☒ $(1, 2)$ ☐ $(2, 3)$ NONE OF THESE

- d. [2 points] Circle all points listed below that are **inflection points** of $H(q)$.

☒ $q = -3$ ☒ $q = -2$ ☒ $q = 0$ ☐ $q = 2$ ☐ $q = 3$ NONE OF THESE

- e. [1 point] Circle all points c below for which the limit $\lim_{q \rightarrow c} H(q)$ **does not exist**.

☐ $c = -2$ ☐ $c = -1$ ☐ $c = 0$ ☐ $c = 1$ ☐ $c = 2$ ☒ NONE OF THESE

- f. [1 point] Circle all points c below for which the limit $\lim_{q \rightarrow c} H'(q)$ **does not exist**.

☒ $c = -2$ ☒ $c = -1$ ☐ $c = 0$ ☐ $c = 1$ ☐ $c = 2$ NONE OF THESE

- g. [1 point] Circle all points c below for which the limit $\lim_{q \rightarrow c} H''(q)$ **does not exist**.

☒ $c = -2$ ☐ $c = -1$ ☒ $c = 0$ ☒ $c = 1$ ☐ $c = 2$ NONE OF THESE