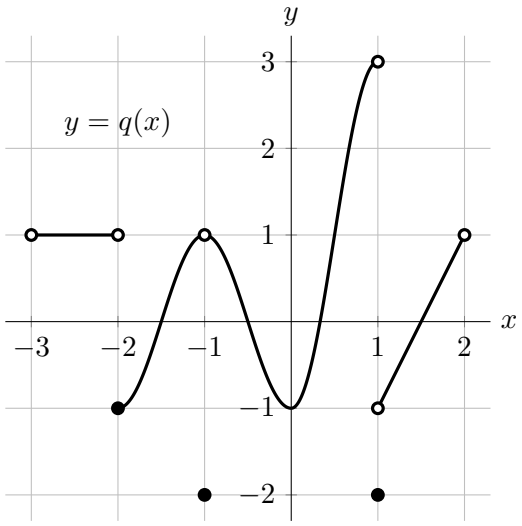
3. [10 points] The entire graph of a function q is shown below. Note that $q(x)$ is linear on the interval $1 < x < 2$.



Throughout this problem, you do not need to explain your reasoning.

For each of parts **a.**– **c.** below, circle <u>all</u> of the listed values satisfying the given statement. If there are no such values, circle NONE.

a. [2 points] For which of the following values of a does $\lim_{t \to a} q(t)$ exist?

$a = -2$ $\quad$ $\boxed{a = -1}$ $\quad$ $\boxed{a = 0}$ $\quad$ $a = 1$ $\quad$ NONE

b. [2 points] For which of the following values of b is $q(x)$ continuous at $x = b$?

$b = -2$ $\quad$ $b = -1$ $\quad$ $\boxed{b = 0}$ $\quad$ $b = 1$ $\quad$ NONE

c. [2 points] For which of the following values of c is $\lim_{x \to c^+} q(x) = q(c)$?

$\boxed{c = -2}$ $\quad$ $c = -1$ $\quad$ $\boxed{c = 0}$ $\quad$ $c = 1$ $\quad$ NONE

For each of parts **d.** and **e.** below, if the limit does not exist (including the case of limits that diverge to ∞ or $-\infty$), write DNE.

d. [2 points] Evaluate the following expression: $\lim_{k \to 0} \dfrac{q(1.21 + k) - q(1.21)}{k}$.

Answer: 2

e. [2 points] Evaluate the following expression: $\lim_{s \to -1} q(q(s))$.

Answer: 3