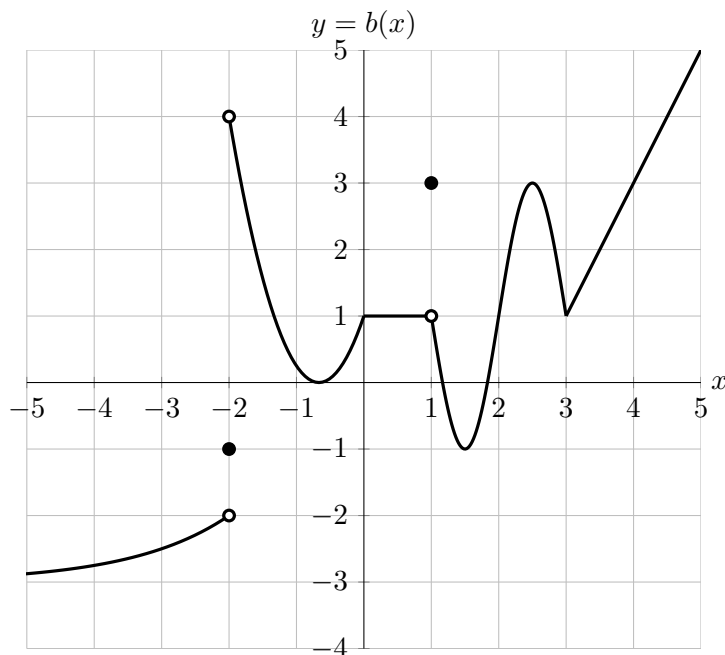


4. [14 points] A portion of the function  $b(x)$  is depicted in the graph below. This function is defined for all real numbers  $x$ .



Find the exact value of the limits below. If any of the limits does not exist, write “DNE”. If there is not enough information provided to you to answer the question, write “NI”. You do not need to show your work.

a. [2 points]  $\lim_{x \rightarrow -2} b(x)$

*Solution:*

**Answer:** DNE

b. [2 points]  $\lim_{x \rightarrow -2^-} b(x)$

*Solution:*

**Answer:** -2

c. [2 points]  $\lim_{t \rightarrow 1} b(t)$

*Solution:*

**Answer:** 1

d. [2 points]  $\lim_{m \rightarrow 0} \frac{b(4+m) - b(4)}{m}$

*Solution:*

**Answer:** 2

e. [2 points]  $\lim_{s \rightarrow 0^-} b(b(s))$

*Solution:*

**Answer:** 1

f. [2 points]  $\lim_{x \rightarrow 0^+} b(b(x))$

*Solution:*

**Answer:** 3

g. [2 points]  $\lim_{x \rightarrow \infty} b\left(-2 + \frac{1}{x}\right)$

*Solution:*

**Answer:** 4