2. [9 points] The graph of $f(x)$ shown below consists of lines and semicircles.
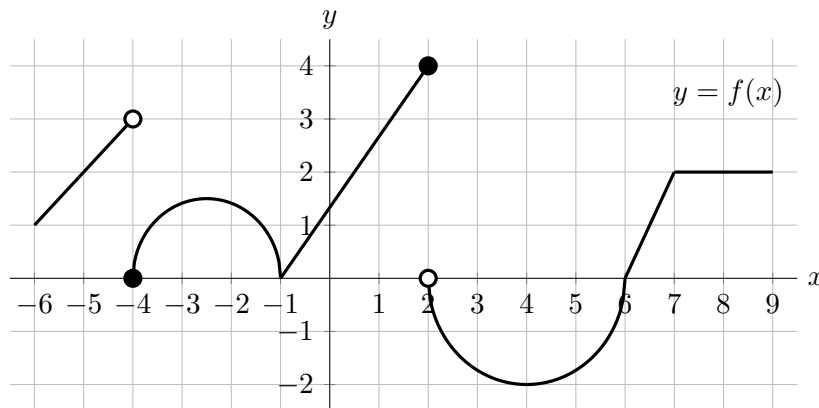

Use the graph above to calculate the answers to the following questions. Give your answers as <u>exact values</u>. You do not need to show work. If any of the answers can't be found with the information given, write "NEI".

a. [3 points] Find the average value of $f(x)$ on $[-4, 2]$.

Answer: _____

b. [2 points] Find the value of $\int_4^9 |f(z)|\,dz$.

Answer: $\int_4^9 |f(z)|\,dz = $_____

c. [2 points] Find the value of $4 < T \le 9$ such that $\int_4^T f(x)\,dx = 0$.

Answer: $T = $_____

d. [2 points] Find the value of $\int_{-8}^{-7} f(x+2) + 1\,dx$.

Answer: $\int_{-8}^{-7} f(x+2) + 1\,dx = $_____