**1.*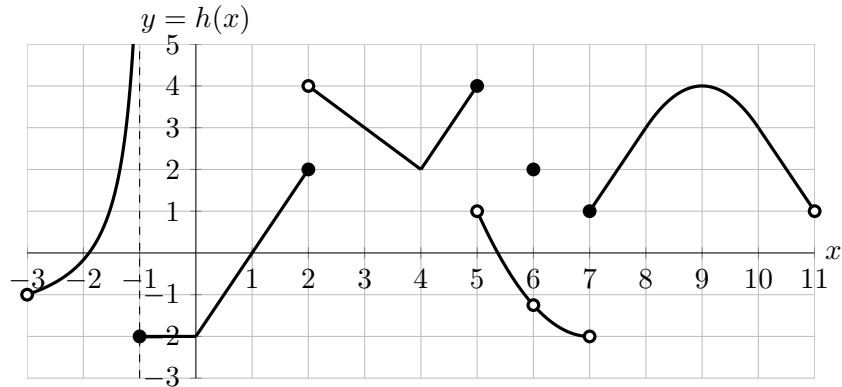* [13 points]  The graph of a portion of a function $y = h(x)$ is shown below. Note that the graph is linear where it appears to be linear, including on the intervals $[7, 8]$ and $[10, 11]$.



$y = h(x)$

**a.** [2 points] At which of the following points $p$ is $h(x)$ *not* continuous at $x = p$? Circle *all* such values.

$$p = -1 \qquad p = 1 \qquad p = 2 \qquad p = 4 \qquad p = 5 \qquad \text{NONE OF THESE}$$

**b.** [2 points] For which of the following values $a$ is $\lim\limits_{x \to a^+} h(x) = h(a)$? Circle *all* such values.

$$a = -1 \qquad a = 2 \qquad a = 4 \qquad a = 5 \qquad a = 6 \qquad \text{NONE OF THESE}$$

For parts **c.**–**e.**, find the exact value of each of the expressions. If the value does not exist, write DNE. If there is not enough information, write NI.

**c.** [2 points] Calculate the average value of $h(x)$ on the interval $[-1, 1]$.

**Answer:** _____

**d.** [4 points] Suppose $g(x) = h(3h(x))$. Calculate $g'(1.5)$. Show all your computations to receive full credit.

$g'(1.5) =$ _____

**e.** [3 points] Calculate $\displaystyle\int_{7.5}^{10.5} h''(x) \, dx$.

$$\int_{7.5}^{10.5} h''(x) \, dx = \underline{\hspace{3cm}}$$