

7. [3 points] Assume that  $k(t)$  is a differentiable function defined for all  $t$ , and that the tangent line to the graph of  $k(t)$  at  $t = 2$  passes through the points  $(1, 10)$  and  $(4, 19)$ . Find the values of  $k(2)$  and  $k'(2)$ . You do not need to show work, but limited partial credit may be earned for work shown.

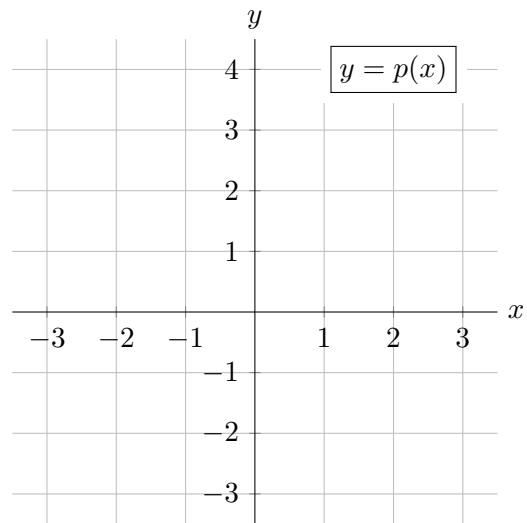
**Answer:**  $k(2) = \underline{\hspace{2cm}}$  and  $k'(2) = \underline{\hspace{2cm}}$

8. [5 points] For each part below, carefully draw the graph of a single function on the given axes that satisfies the given conditions, or, if no such function exists, write DNE.

a. [2 points]

A function  $p(x)$  such that

- $p(x)$  is defined for all  $-3 < x < 3$ ,
- $\frac{p(2) - p(-2)}{2 - (-2)} = 0$ , and
- $p(x)$  is invertible.



b. [3 points]

A function  $q(x)$  such that

- $q(x)$  is defined for all  $-3 < x < 3$ ,
- $q(x)$  is increasing on  $(-3, 3)$ ,
- $q(x)$  is concave up on  $(-3, 0)$ , and
- $q(x)$  is an odd function.

