

4. (8 pts) A function  $g(x)$  is graphed below, together with its tangent line when  $x = 2$ .

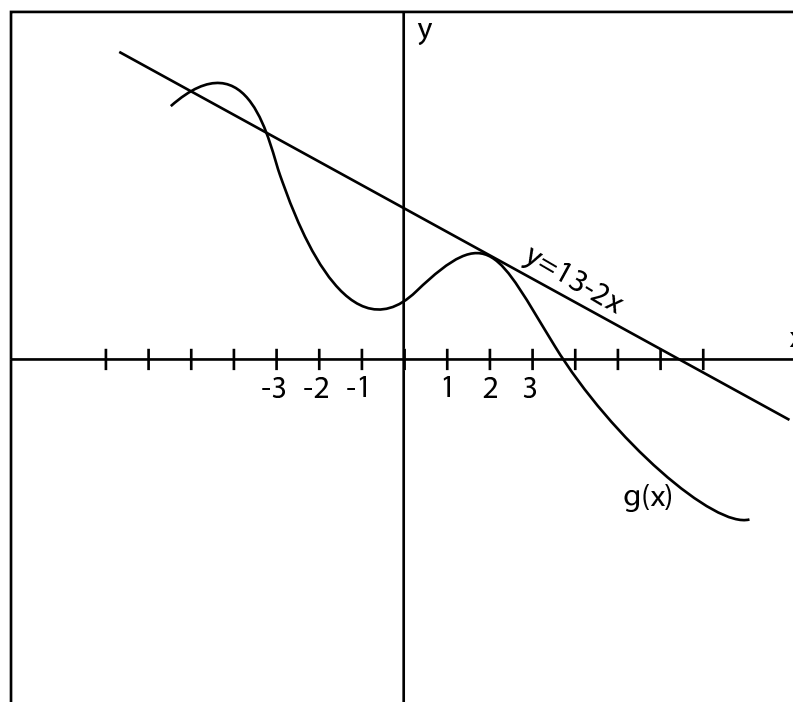


Figure 1:  $g(x)$  with tangent line

- a) What is the value of  $g(2)$ ?
- b) What is the value of  $g'(2)$ ?
- c) Does the limit  $\lim_{h \rightarrow 0} \frac{g(2+h) - g(2)}{h}$  exist? If so, what is its value? If not, explain why not.