8. (8 points) Below are the graphs of two functions f and g and their derivatives. Consider the function h defined by
$$h(x) = (f(x))^2 + (g(x))^2.$$

Find approximate values for $h(2)$ and $h'(2)$. [Show your intermediate calculations as well as your final answers below.]

- $h(2) \approx$ _____

- $h'(2) \approx$ _____