6. (12 points) The graph of a function $f$ is shown below, together with a table of values for its derivative $f^{\prime}$. Let $g(x)=f(f(x))$.


| $x$ | $f^{\prime}(x)$ |
| :---: | :---: |
| -3 | -1 |
| -2 | -1 |
| -1 | 2 |
| 0 | 2 |
| 1 | 0 |
| 2 | -2 |

(a) (2 points) Find $g(-2)$
(b) (3 points) Find $g^{\prime}(-2)$
(c) (3 points) Write an expression for $g^{\prime \prime}(x)$ in terms of $f$ and its derivatives.
(d) (4 points) Suppose $f^{\prime \prime}(-1)=2$. What is $g^{\prime \prime}(-1)$ ?

