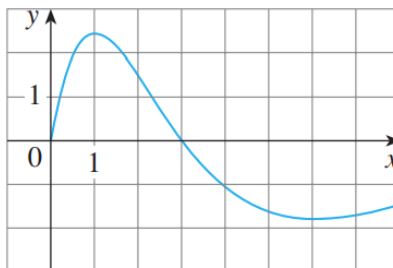


Exercise 2

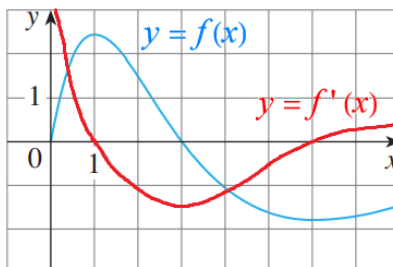
Use the given graph to estimate the value of each derivative. Then sketch the graph of f' .

- | | | | |
|-------------|-------------|-------------|-------------|
| (a) $f'(0)$ | (b) $f'(1)$ | (c) $f'(2)$ | (d) $f'(3)$ |
| (e) $f'(4)$ | (f) $f'(5)$ | (g) $f'(6)$ | (h) $f'(7)$ |



Solution

The value of $f'(x)$ is the slope of the tangent line to $f(x)$.



Use this approximate graph to give estimates of $f'(x)$ at each value of x .

$$f'(0) \approx 3.5$$

$$f'(1) \approx 0$$

$$f'(2) \approx -1$$

$$f'(3) \approx -1.5$$

$$f'(4) \approx -1.2$$

$$f'(5) \approx -0.5$$

$$f'(6) \approx 0$$

$$f'(7) \approx 0.2$$