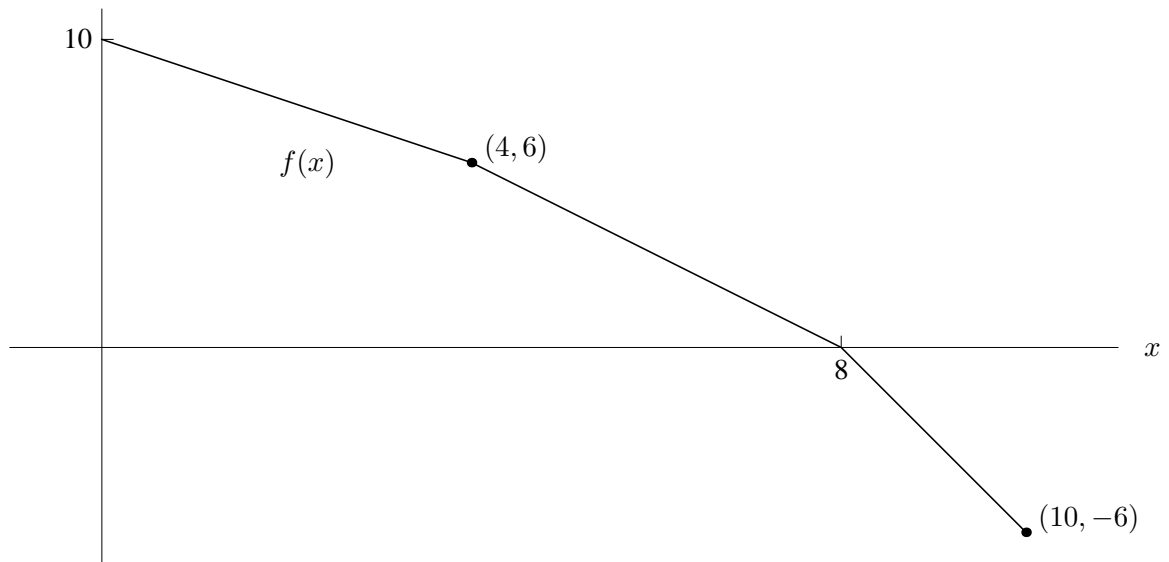


6. [16 points] Consider the piecewise linear function  $f(x)$  graphed below:



For each function  $g(x)$ , find the value of  $g'(3)$ :

a. [4 points]  $g(x) = \sin([f(x)]^3)$

b. [4 points]  $g(x) = \frac{f(x^2)}{x}$

c. [4 points]  $g(x) = \ln(f(x)) + f(2)$

d. [4 points]  $g(x) = f^{-1}(x)$