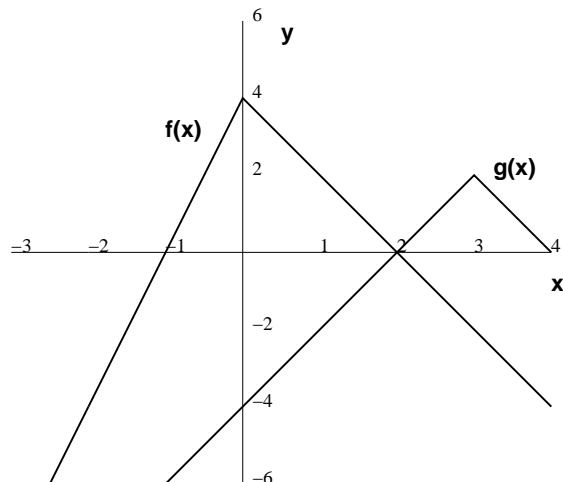


- (3.) (16 points) The graphs of two functions  $f$  and  $g$  are shown below. [Note that the scales on the axes are not the same.]



Show your work.

(a) If  $h(x) = f(g(x))$ , compute  $h'(1)$ .

(b) If  $k(x) = f(x) \cdot g(x)$ , compute  $k'(1)$ .

(c) If  $q(x) = \frac{f(x)}{g(x)}$ , compute  $q'(1)$ .

(d) If  $t(x) = \ln(g(x))$ , compute  $t'(1)$ .