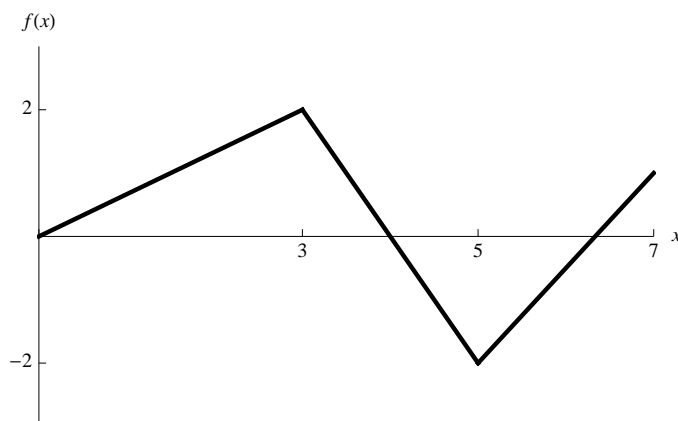


1. [10 points] Given below is a graph of a function $f(x)$ and a table for a function $g(x)$.



x	0	1	2	3	4
$g(x)$	4	3	1	2	$\frac{20}{3}$
$g'(x)$	-2	$-\frac{5}{2}$	$\frac{1}{2}$	3	$-\frac{1}{3}$

Give answers for the following or write “Does not exist.” No partial credit will be given.

i) $\frac{d}{dx}f(g(x))$ at $x = 0$

ii) $\frac{d}{dx}[f(x)g(x)]$ at $x = 2$

iii) $\frac{d}{dx}\left[\frac{f(x)}{g(x)}\right]$ at $x = 4$

iv) $\frac{d}{dx}[g(f(x))]$ at $x = 3$

v) $f(g'(3))$