Quiz 2.9

Name

1. Let f be a differentiable function such that $f(9) = 18$ and $f'(9) = 7$. If g is the function defined by $g(x) = \frac{f(x)}{\sqrt{x}}$, what is the value of $g'(9)$?

(A) 2

(B) $\frac{7}{3}$

(C) $\frac{8}{3}$

(D) 42

2. If $f(x) = \frac{\sin x}{e^x}$, then $f'(x) =$

(A) $\frac{-\cos x - \sin x}{e^x}$

(B) $\frac{\cos x - \sin x}{e^x}$

(C) $\frac{\sin x - \cos x}{e^x}$

(D) $\frac{\cos x + \sin x}{e^x}$

3.

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

The table above gives values of the differentiable functions f and g and their derivatives at $x = 0$. If $h(x) = \frac{6f(x)}{g(x)-1}$, then $h'(0) =$

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(A) 15

(B) 3

(C) 2

(D) -5