

AP FR Questions with Tables (Noncalculator)

2016

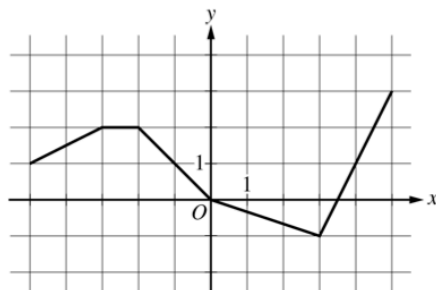
x	$f(x)$	$f'(x)$	$g(x)$	$g'(x)$
1	-6	3	2	8
2	2	-2	-3	0
3	8	7	6	2
6	4	5	3	-1

The functions f and g have continuous second derivatives. The table above gives values of the functions and their derivatives at selected values of x .

- (a) Let $k(x) = f(g(x))$. Write an equation for the line tangent to the graph of k at $x = 3$.
- (b) Let $h(x) = \frac{g(x)}{f(x)}$. Find $h'(1)$.
- (c) Evaluate $\int_1^3 f''(2x) dx$.

2017

x	$g(x)$	$g'(x)$
-5	10	-3
-4	5	-1
-3	2	4
-2	3	1
-1	1	-2
0	0	-3



Graph of h

Let f be the function defined by $f(x) = \cos(2x) + e^{\sin x}$.

Let g be a differentiable function. The table above gives values of g and its derivative g' at selected values of x .

Let h be the function whose graph, consisting of five line segments, is shown in the figure above.

- (a) Find the slope of the line tangent to the graph of f at $x = \pi$.
- (b) Let k be the function defined by $k(x) = h(f(x))$. Find $k'(\pi)$.
- (c) Let m be the function defined by $m(x) = g(-2x) \cdot h(x)$. Find $m'(2)$.
- (d) Is there a number c in the closed interval $[-5, -3]$ such that $g'(c) = -4$? Justify your answer.

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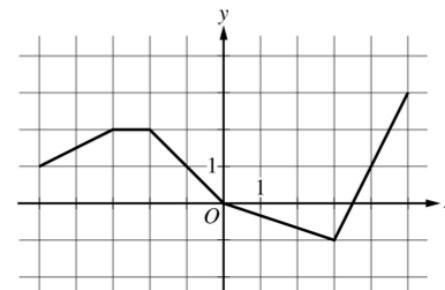
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