

## Day 4 Wrap Up

Name \_\_\_\_\_

1. 

$x$	-2	-1	0	1	2
$g(x)$	-3	2	1	0	5

Selected values of a function  $g$  are shown in the table above. What is the average rate of change of  $g$  over the interval  $[-2, 2]$ ?

(A)  $\frac{2-(-2)}{5-(-3)}$

(B)  $\frac{5-(-3)}{2-(-2)}$

(C)  $\frac{5+(-3)}{2}$

(D)  $\frac{-3+2+1+0+5}{5}$

2. Let  $f$  be the function defined by  $f(x) = 2 \sin x + \cos x$ . The average rate of change of  $f$  over the interval  $[0, b]$  is 0.05, where  $b > 0$ . Which of the following is an equation that could be used to find the value of  $b$ ?

(A)  $f(b) = 0.05$

(B)  $f(b) - f(0) = 0.05$

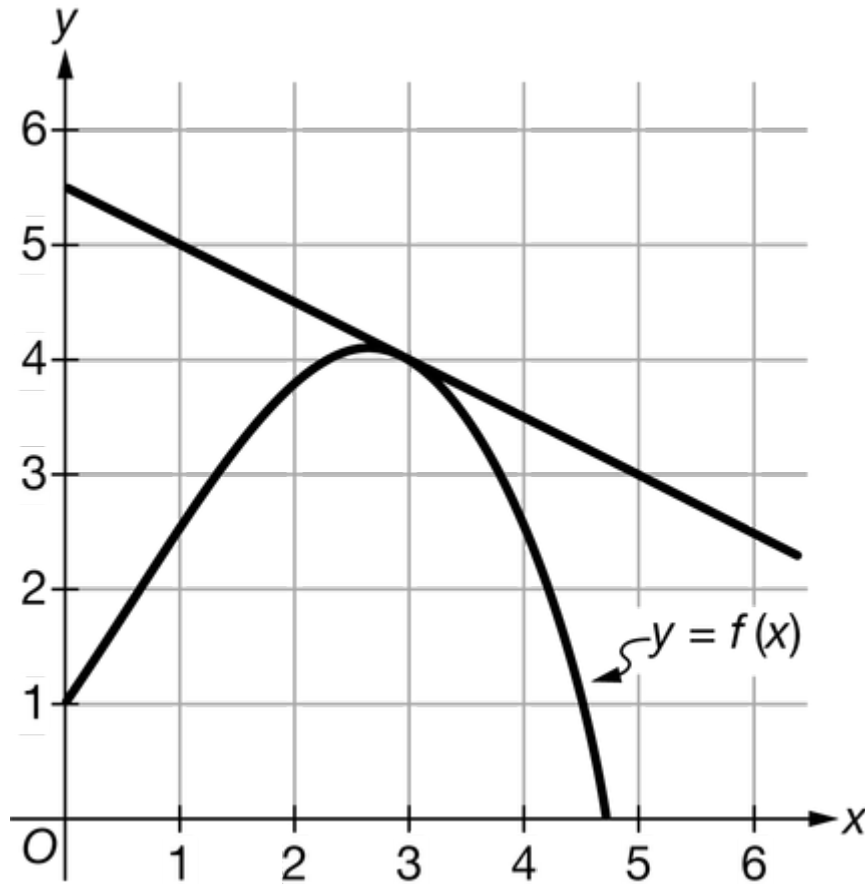
(C)  $\frac{f(b)-f(0)}{b-0} = 0.05$

(D)  $\frac{f(b)+f(0)}{2} = 0.05$



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3.



Shown above is the graph of the differentiable function  $f$  along with the line tangent to the graph of  $f$  at  $x = 3$ . What is the value of  $f'(3)$ ?

- (A)  $-\frac{1}{2}$
- (B)  $-2$
- (C)  $4$
- (D)  $\frac{11}{2}$



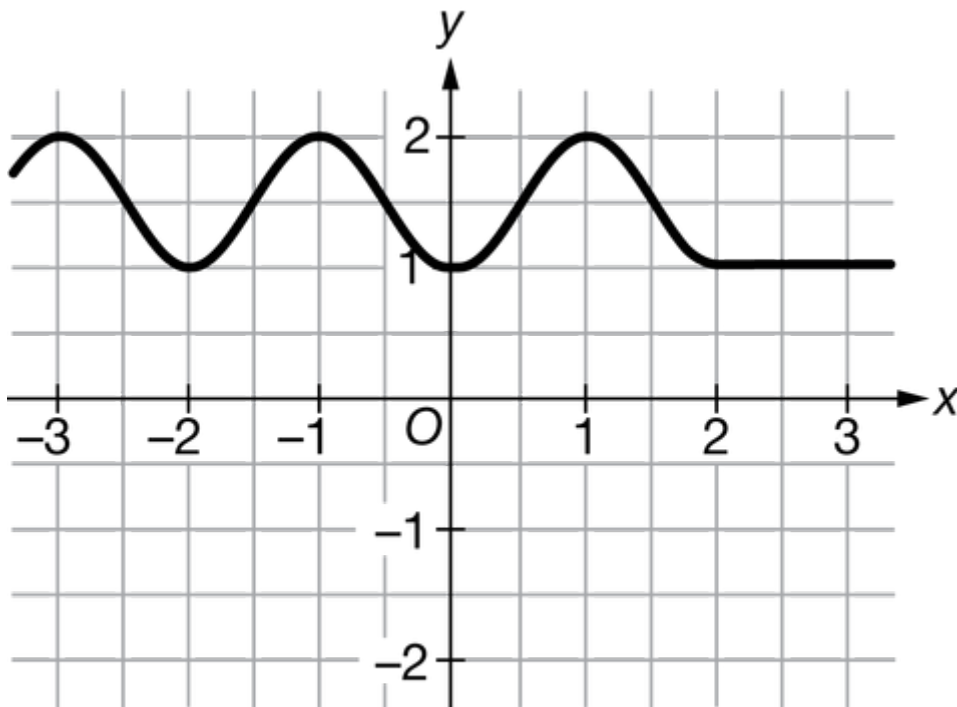
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4. An equation for the line tangent to the graph of the differentiable function  $f$  at  $x = 3$  is  $y = 4x + 6$ . Which of the following statements must be true?

1.  $f(0) = 6$
2.  $f(3) = 18$
3.  $f'(3) = 4$

- (A) None
- (B) I and II only
- (C) II and III only
- (D) I, II, and III

5.



Graph of  $f'$

Let  $f$  be a differentiable function with  $f(1) = 3$ . The graph of  $f'$ , the derivative of  $f$ , is shown above. Which of the following statements is true about the line tangent to the graph of  $f$  at  $x = 1$ ?



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- (A) The tangent line has slope 2 and passes through the point  $(1, 3)$ .
- (B) The tangent line has slope 2 and passes through the point  $(1, 2)$ .
- (C) The tangent line has slope 0 and passes through the point  $(1, 3)$ .
- (D) The tangent line has slope 0 and passes through the point  $(1, 2)$ .
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