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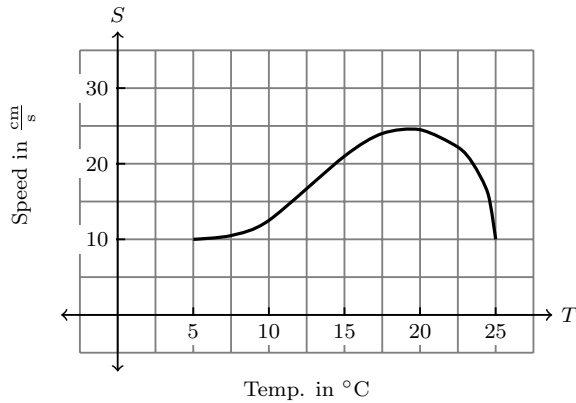
AUTHOR 3 \_\_\_\_\_

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# Worksheet 06

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1. The graph below shows the influence of the temperature  $T$  on the maximal sustainable swimming speed  $S$  of Coho salmon. Estimate  $S'(15)$  (include the units), and describe the meaning of  $S'(15)$ . *Make sure to show your work, which may include drawing on the graph.*

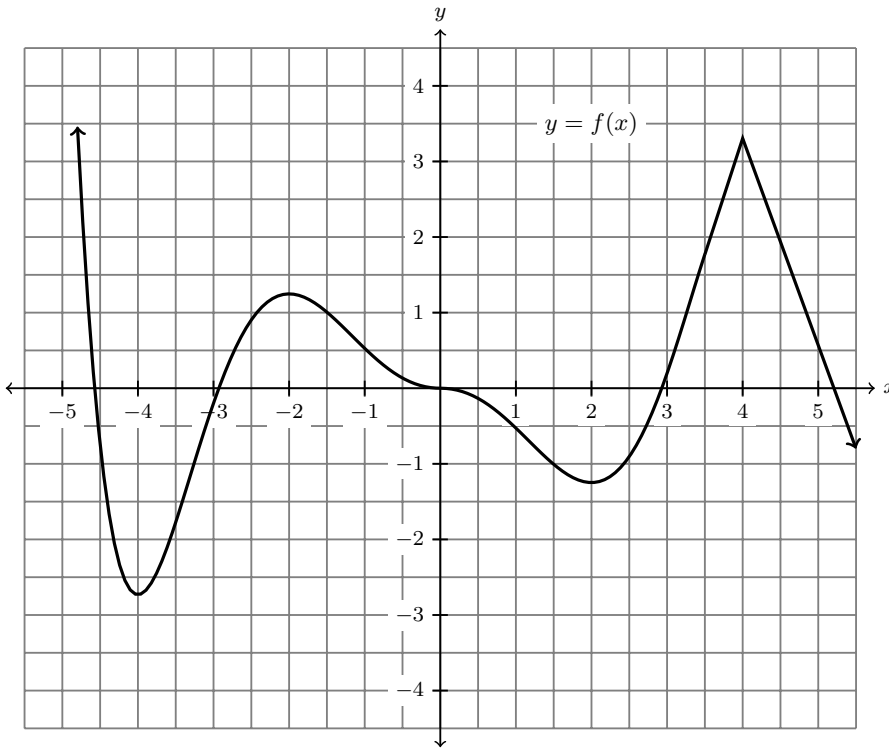


2. Let  $f(x) = x^2 - 2x$ .

(a) Use the definition of the derivative to find a formula for  $f'(x)$

(b) Use the formula that you found in the previous part to compute  $f'(0)$ ,  $f'(1)$ , and  $f'(2)$ .

3. The graph of  $y = f(x)$  is given below.



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

- (a) Use the graph above to fill in the table on the right for  $f'(x)$ .  
 (b) Determine the intervals on which  $f'(x)$  is positive and negative.

$f'(x)$  is positive on \_\_\_\_\_

$f'(x)$  is negative on \_\_\_\_\_

- (c) Sketch the graph of  $f'(x)$  below.

