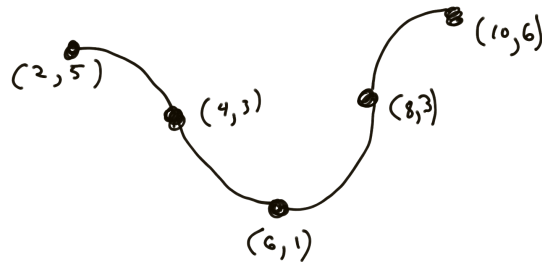


Section 1.6 – Second Order Derivatives

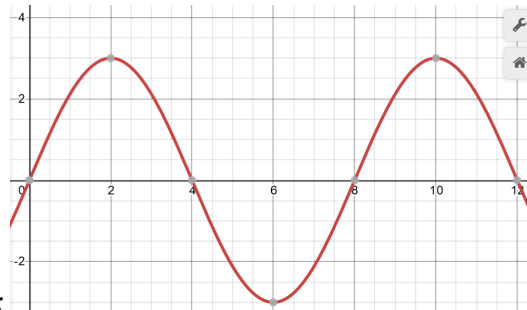


1. Given this cartoon graph of $y = f(x)$:
fill in the following table:

	f	f'	f''
Values (intervals) where negative			
Values where equal to zero			
Values (intervals) where positive			

2. If f is represented by the following table, fill in the missing rows on the table with the best approximation:

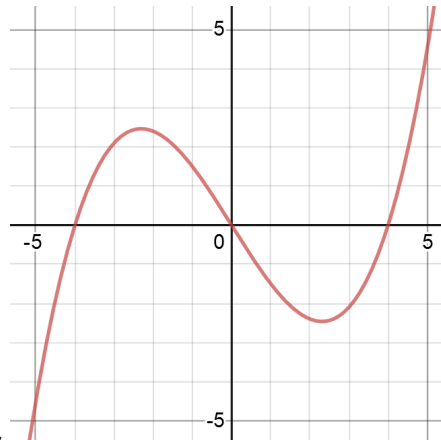
x	0	2	4	6
$f(x)$	4	6	7	6
$f'(x)$				
$f''(x)$				



3. Given the graph of $y = f(x)$:
fill in the following table and draw reasonable graphs of f' and f'' .

	f	f'	f''
Intervals where the function is negative			
Values where the function is equal to			
Values (intervals) where positive			

4. Given that $y = f(x) = x^3$, use the algebraic definition to find a formula for $y = f'(x)$ and $y = f''(x)$.
Show all of your work!



5. Given this graph of $y = f(x)$,
 fill in the following table and draw a graph of f' and f'' .

	f	f'	f''
Values (intervals) where negative			
Values where equal to zero			
Values (intervals) where positive			

6. Draw a graph of f that is consistent with the following table

	f'	f''
Values (intervals) where negative	$(-2,0), (4,6)$	$(2,6)$
Values where equal to zero	$x = 0, x = 4$	$x = 2$
Values (intervals) where positive	$(0,4)$	$(-2,2)$