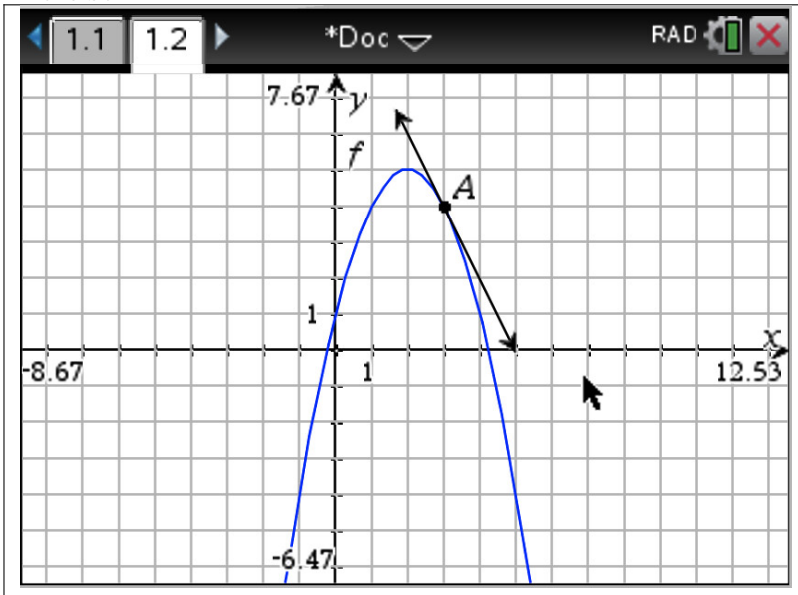
Exercise 1 Calc. : ✗

Differentiate the following functions.	
1. $f(x) = -3x^3 + 6x^2 - \frac{13}{217}$	2 marks
2. $g(x) = \frac{1}{2}x^4 - \frac{1}{3}x^3$	2 marks

Exercise 2 Calc. : ✗



The figure shows the graph of function f.

1. From the graph find the values of $f(0)$, $f(2)$ and $f(3)$.	3 marks
2. From the graph find the values of $f'(2)$ and $f'(3)$.	4 marks
3. Write the equation of the tangent to the graph at point A.	4 marks
4. From the graph find the range of values for x such that $f'(x) < 0$.	4 marks

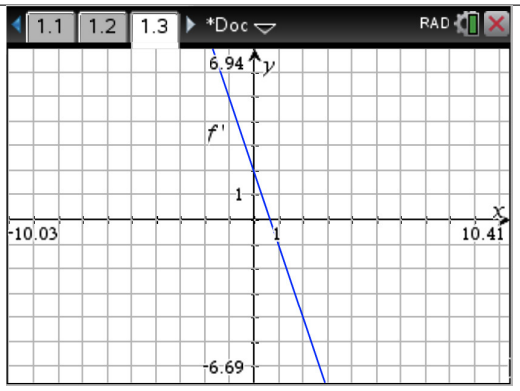
Exercise 3 Calc. : ✗

Consider the function $f(x) = x^2 - 2x - 8$ and its graph F.	
1. Find the coordinates of the turning point of F.	2 marks
2. Write the equation of the tangent to F at $x = 2$.	4 marks
3. Find the coordinates of the intersection point of F with the line $y = -x - 2$.	4 marks

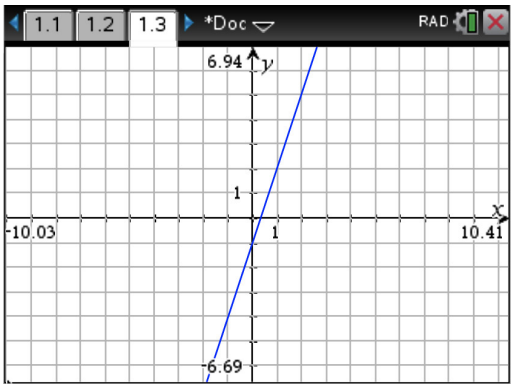
Exercise 4 Calc. : ✗

The figure on the right represents the graph of a derivate function f'.
Choose among the graphs below the one(s) that could represent the function f.
You must justify your answer carefuly, otherwise no points will be awarded.

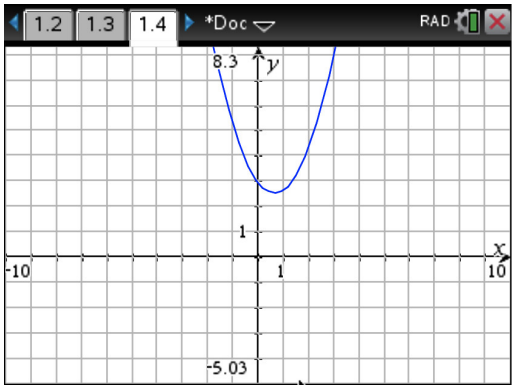
6 marks



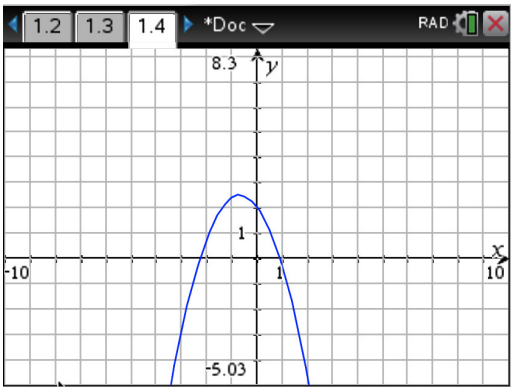
Graph of function f'



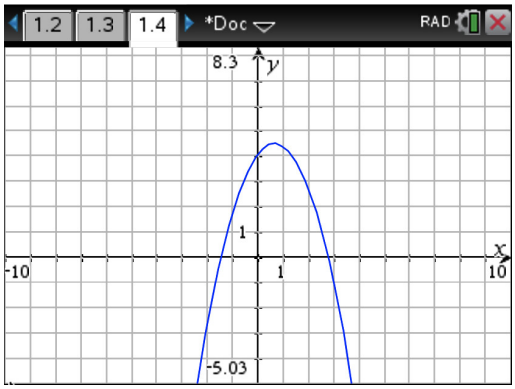
Graph 1



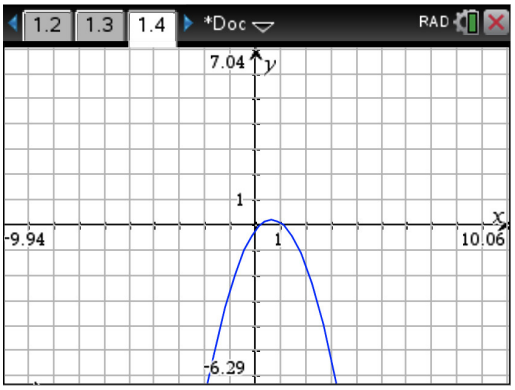
Graph 2



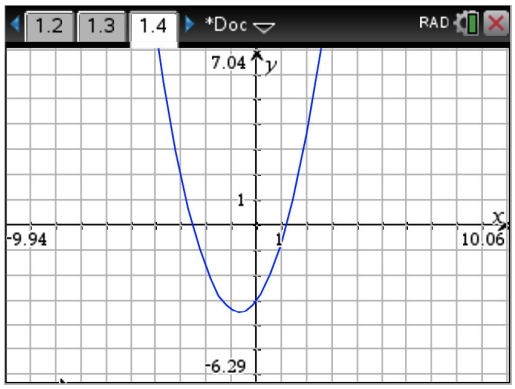
Graph 3



Graph 4



Graph 5



Graph 6