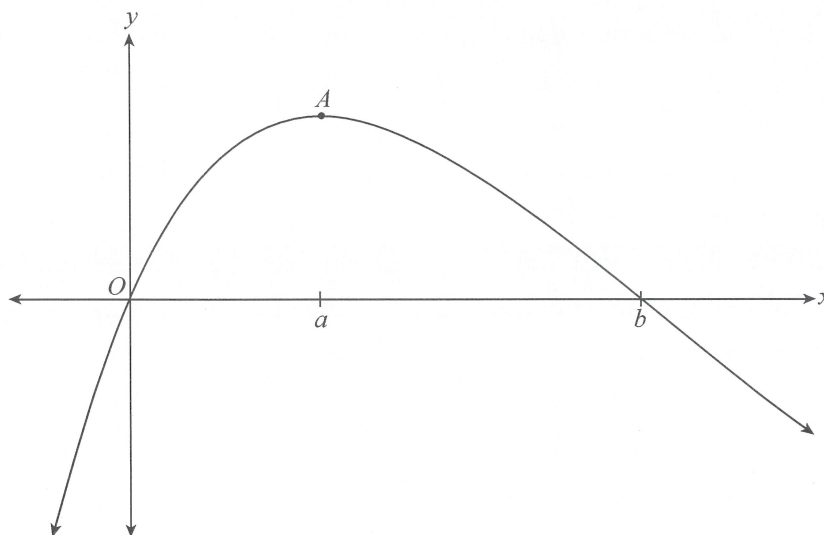


Question 9 (7 marks)

Consider the function $f(x)$. The graph of its *derivative*, $y = f'(x)$, is shown below. The graph intersects the x -axis at the origin (O) and at $x = b$. The point A , where $x = a$, is a local maximum of the graph of $y = f'(x)$.

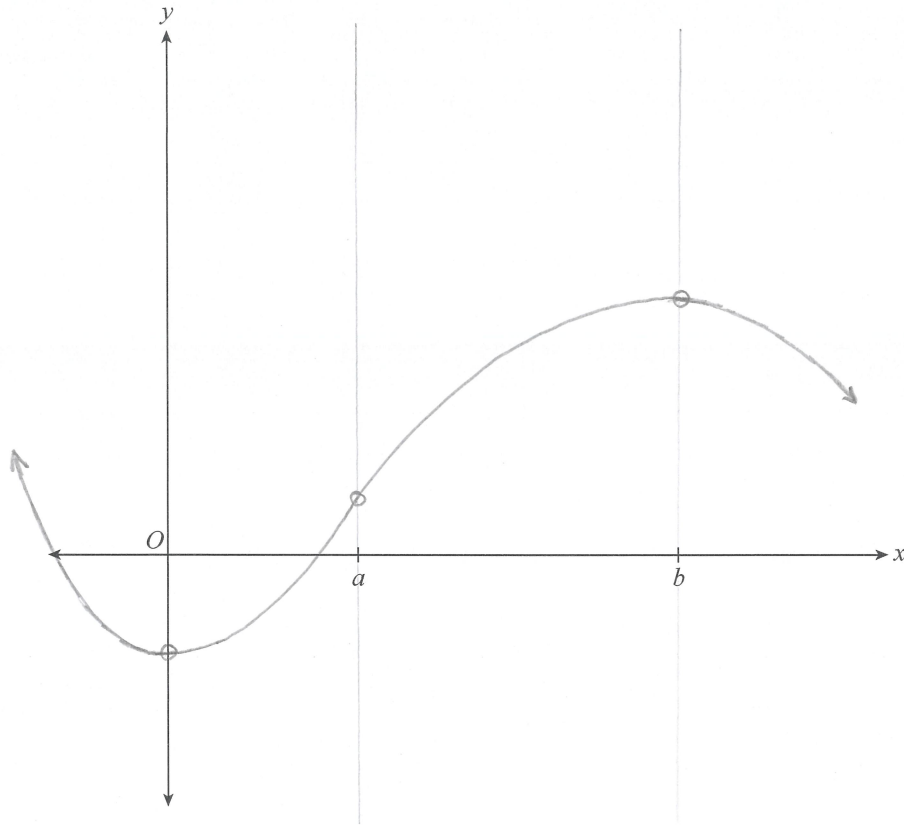


- (a) Complete the table below by indicating whether $f'(x)$ and $f''(x)$ are positive (+), negative (-), or zero (0) when $x = a$ and when $x = b$.

x	a	b
$f'(x)$	+	0
$f''(x)$	0	-

(4 marks)

- (b) On the axes below, sketch a possible graph of $y = f(x)$ that passes through the origin. Clearly show the shape of the graph in the vicinities of the origin, $x = a$, and $x = b$.



(3 marks)