

Name: *Solution*

Student Number:

Problem 1

Sketch the graph of a function that satisfies all of the given conditions.

$$f'(0) = f'(2) = f'(4) = 0,$$

$$f'(x) > 0 \text{ if } x < 0 \text{ or } 2 < x < 4,$$

$$f'(x) < 0 \text{ if } 0 < x < 2 \text{ or } x > 4,$$

$$f''(x) > 0 \text{ if } 1 < x < 3,$$

$$f''(x) < 0 \text{ if } x < 1 \text{ or } x > 3$$

Draw tables to put all the information in:

	0	2	4	
f'	+	-	+	-
f	↗	↘	↗	↘

local max
local min
local max

	1	3	
f''	-	+	-
f	CD	CU	CD

