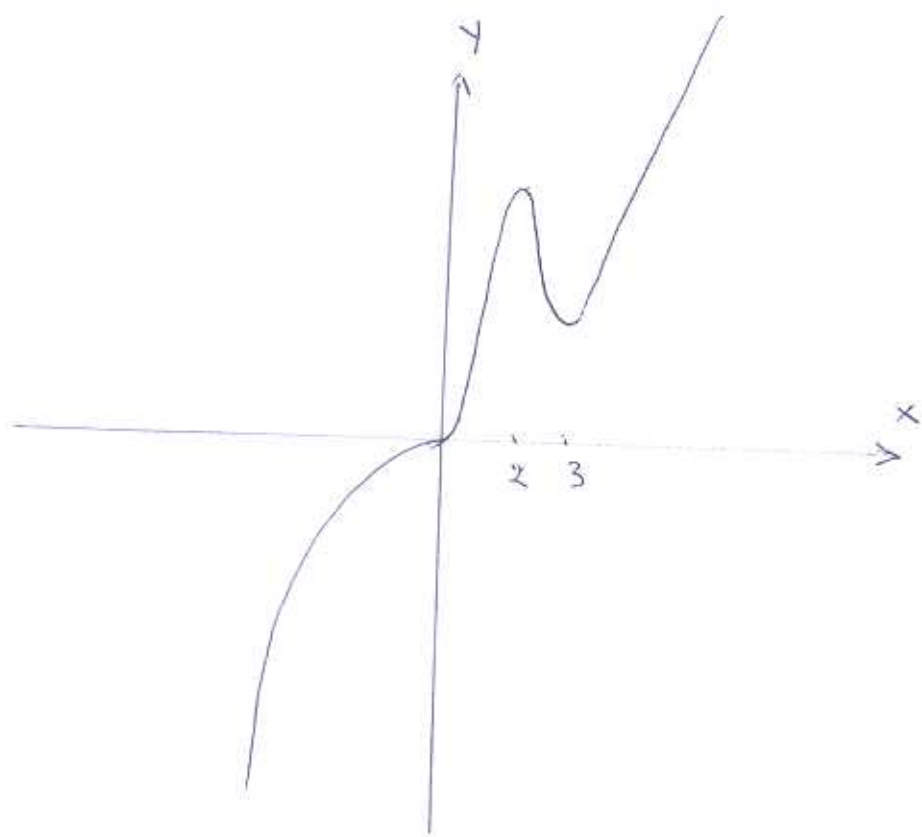


4)

So we have a local max at 2
a local min at 3

sketch of the graph



the inflection points can be found
by solving $f''(x) = 0$ and the sign variations
of $f''(x)$

b) Call x and y the two numbers
we have $x + y = 36$. Put $P = xy$

$$P = x(36 - x) = -x^2 + 36x$$

hence $P' = -2x + 36$, $P' = 0 \Leftrightarrow x = 18$

$P'' = -2$ so P has an absolute max when
 $x = 18$, $y = 18$ and its value is $18 \cdot 18 = 324$