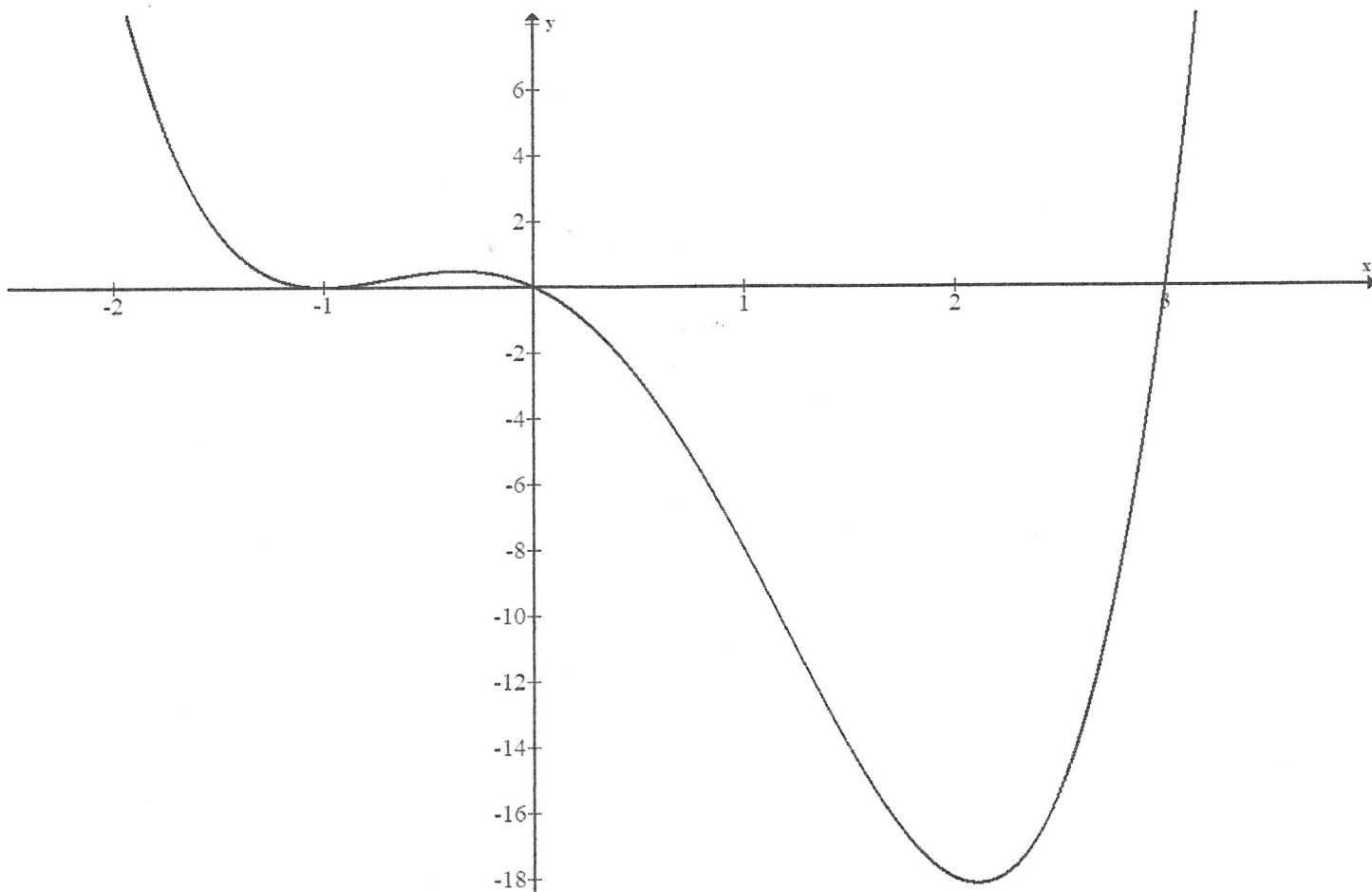


4) Verify the Mean Value Theorem for $f(x) = \ln x$ on $[1, 4]$.

$$\frac{\ln 4 - \ln 1}{3} = 0.462$$

$$x = 2.164$$

$$f'(x) = \frac{1}{x} = 0.462$$



5) Assume that the graph above is of the **derivative** function $f'(x)$.

With regards to the original function $f(x)$:

On which x-interval(s) is $f(x)$ increasing? $(-2, -1)$ $(-1, 0)$ $(3, 3.5)$

On which interval(s) is $f(x)$ decreasing? $(0, 3)$