

## Weekly test VII

Wednesday, 19th November 2014

Given the function

$$f(x) = \frac{x^2 + 2x}{x^2 - 4}$$

1. Find the domain, the axis intercepts and study the sign of  $f$
2. Find, if they exist, horizontal and vertical asymptotes
3. Calculate  $f'(x)$ . Determine the intervals in which the function increases or decreases. Find (if they exist) local maxima and minima.
4. Draw the graph of the function