University of Oslo
Department of Economics

ECON3120/4120 – Mathematics 2, spring 2009
A little homework before the seminars begin

1 Let $f(x) = (x^2 - 2x)e^x$.

   (a) Find $f'(x)$ and $f''(x)$.

   (b) Find the zeros of f (where $f(x)$ is 0), local extreme points, and inflection points. Sketch the graph.

2 Let $g(x) = x - 2\ln(x+1)$.

   (a) Where is g defined?

   (b) Find $g'(x)$ and $g''(x)$.

   (c) Find possible extreme points and inflection points. Sketch the graph.

3 Where is $h(x,y) = \ln(y - x^2)$ defined?

4 Find all solutions of the equation

$$\frac{(x+2)\ln(1+x)}{x-2} = 0$$

Engelsk–norsk gloseliste:

   inflection point   =   vendepunkt

   zero of a function =   nullpunkt for en funksjon