Exercise 3 FYSA120 C++ numerical programming Winter 2015

Email the *commented* solution code (*.cpp, *hpp) as attachments to : `fysy160(at)gmail.com` **Subject line:** `demo3`

1. Use Boost library odeint solver `boost::numeric::odeint` to solve the differential equation

$$y''(t) - 6y'(t) + y(t) = 0$$

from $t = 0$ to $t = 20$ with initial conditions

$$y(0) = 2$$
$$y'(0) = \frac{5}{2} \ .$$

Solve the problem using

a) a fixed-step routine

b) an adaptive-step routine

You can modify the sample routines `boost_ode_simple.cpp` and `boost_ode_adaptive.cpp` found in
http://users.jyu.fi/ veapaja/C++_numerics/material/numerics/

For further information, see the Boost web page
http://www.boost.org/doc/libs/1_59_0/libs/numeric/odeint/doc/html/index.html