Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Name major steps in a discretization process.
2. What types of boundary conditions do you know?
3. The linear differential equation, , together with Dirichlet boundary conditions, always has a unique solution, provided that the coefficients *a*(*x*), *b*(*x*) and *a*(*x*) are continuous. Is this statement correct?
4. What methods of solving finite-difference equations in 1D do you know.
5. The shooting method is applicable only in 1D. Is this statement correct?
6. The finite difference method can be used for a general non-linear differential equation, .  
   Is this statement correct?