FEM

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FEM

The main constitutes of a finite element method for the solution of a boundary-value problem are

- The variational or weak statement of the problem;
- The approximate solution of the variatinal equations through the use of "finite element functions."

Strong form of the boundary-value problem:

$$(S)\begin{cases}\text{Given } \omega \ : \bar{\Omega} \to \mathbb{R} \text{ and constants } \text{ and }, \text{ find } u : \bar{\Omega} \to \mathbb{R}, \text{ such that} \\ u_{,xx} + \ = 0 \quad \text{on } \Omega \\ u(1) = \\ -u_{,x}(0) = \end{cases}$$

Test test test.