
SIMILARITY
and
DIMENSIONAL METHODS
in
MECHANICS
10th Edition

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are introduced, for example, energy, velocity, stress, etc., which characterize the considered phenomenon and can be specified and determined with the help of numbers.

All the questions concerning motion and equilibrium can be formulated as problems for determining certain functions and numerical values for the quantities characterizing the phenomenon. By solving such problems, we present laws of nature and various geometrical relations in the form of functional equations, which are usually differential.

In purely theoretical investigations, these equations are used to establish general qualitative properties of motion, and for the actual calculation of unknown functional relations with the aid of various mathematical operations. However, it is not always possible to reduce mechanical investigation by mathematical considerations and calculations. In a num-

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