Unit One Mathematics READING PASSAGE

Engineering mathematics is a branch of applied mathematics concerning mathematical methods and techniques that are typically used in engineering and industry. Along with fields like engineering physics and engineering geology, both of which may belong in the wider category engineering science, engineering mathematics is an interdisciplinary subject motivated by engineers' needs both for practical, theoretical and other considerations out with their specialization, and to deal with constraints to be effective in their work.

Description

Historically, engineering mathematics consisted mostly of applied analysis, most notably: differential equations; real and complex analysis (including vector and tensor analysis); approximation theory (broadly construed, to include asymptotic, variational, and perturbative methods, representations, numerical analysis); Fourier analysis; potential theory]], outside of analysis. These areas of mathematics were intimately tied to the development of Newtonian physics, and the mathematical physics of that period. This history also left a legacy: until the early 20th century subjects such as classical mechanics were often taught in applied mathematics departments at American universities, and fluid mechanics may still be taught in (applied) mathematics as well as engineering departments.

The success of modern numerical computer methods and software has led to the emergence of computational mathematics, computational science, and computational engineering (the last two are sometimes lumped together and abbreviated as **CS&E**), which occasionally use high-performance computing for the simulation of phenomena and the solution of problems in the sciences and engineering. These are often considered interdisciplinary fields, but are also of interest to engineering mathematics.

Specialized branches include engineering optimization and engineering statistics.

Engineering mathematics in tertiary education typically consists of mathematical methods and models courses.

-French-English Translation Exercises - mathematics

Translate the following sentences into English and compare with the translation provided.

(a) Series can be given which diverge at every point on the circle of convergence.

- (b) La série peut être dérivée ou intégrée terme à terme un nombre arbitraire de fois.
- (c) Toute fonction continue par morceaux peut être développée en série.
- (d) Une fonction f peut être développée en série autour des points singuliers.
- (e) La relation précédente conduit à une expression compacte si la série s'arrête.
- (f) Pour les grandes valeurs de z, ce sont les puissances élevées de z qui dominent.
- (g) Dans ce cas G/z donne par intégration un terme logarithmique.

-How do you translate a sentence into another language?