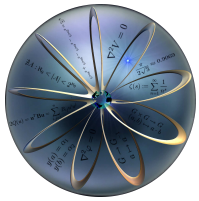

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## completeness principle

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|---|---|
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The *completeness principle* is a property of the real numbers, and is one of the foundations of real analysis. The most common formulation of this principle is that every non-empty set which is bounded from above has a supremum.

This statement can be reformulated in several ways. Each of the following statements is  to the above definition of the completeness principle:

1. The limit of every infinite decimal sequence is a real number.

2. Every bounded monotonic sequence is convergent.

3. A sequence is convergent iff it is a Cauchy Sequence.