

# FREE CATEGORIES FOR THE WORKING MATHEMATICIAN PDF



## **Categories for the Working Mathematician - Wikipedia**

He has taught at Harvard, Cornell and the University of Chicago. Mac Lane's initial research was in logic and in algebraic number Categories for the Working Mathematician valuation theory.

With Samuel Eilenberg he published fifteen papers on algebraic topology. A number of them involved the initial steps in the cohomology of groups

and in other aspects of homological algebra - as well as the discovery of category theory. His famous and undergraduate textbook *Survey of modern algebra*, written jointly with G. Birkhoff, has remained in print for over 50 years.

Mac Lane is also the author of several other highly successful books. *Categories for the Working Mathematician*. Saunders Mac Lane. *Categories for the Working Mathematician* provides an array of general ideas useful in a wide variety of fields. Starting from the foundations, this book illuminates the concepts of category, functor, natural transformation, and duality. The book then turns to adjoint functors, which provide a description of universal constructions, an analysis of the representations of functors by sets of morphisms, and a means of manipulating direct and inverse limits.

These categorical concepts are extensively illustrated in the remaining chapters, which include many applications of the basic existence theorem for adjoint functors. The categories of algebraic systems are constructed from certain adjoint-like data and characterized by Beck's theorem.

After considering a variety of applications, the book continues with the construction and exploitation of Kan extensions. This second edition includes a number of revisions and additions, including two new chapters on topics of active interest.

One is on symmetric monoidal categories and braided monoidal categories and the coherence theorems for *Categories for the Working Mathematician*. The second describes 2-categories and the higher dimensional categories which have *Categories for the Working Mathematician* come into prominence. The bibliography has also been expanded to cover some of the many other recent advances concerning categories.

## **Categories for the Working Mathematician | Saunders Mac Lane | Springer**

It was first published in and is based on his lectures on the subject given at the University of Chicago the Australian National University Bowdoin College and Tulane University. It is widely regarded [1] [2] as the premier introduction to the subject. Chapters XI and XII were added in the second edition, the *Categories for the Working Mathematician* in view of its importance in string theory and quantum field theory and the second to address higher-dimensional categories that have come into prominence.

Although it is the classic reference for category theory some of the terminology is not standard. In particular, Mac *Categories for the Working Mathematician* attempted to settle an ambiguity in usage for the terms epimorphism and monomorphism by introducing the terms epic and monic, but the distinction is not in common use. From Wikipedia, the free encyclopedia.

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## **Categories for the Working Mathematician by Saunders Mac Lane**

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One is on symmetric monoidal categories and braided monoidal categories and the coherence theorems for them. The second describes 2-categories and the higher dimensional categories which have recently come into prominence.

The bibliography has also been expanded to cover some of the many other recent advances concerning categories. Get A Copy. Hardcover pages. Published September 25th by Springer first published January 1st More Details Original Title. Graduate Texts in Mathematics 5. Other Editions 6. Friend Reviews. To see what your friends thought of this book, please sign up. To ask other readers questions about *Categories for the Working Mathematician* please sign up.

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I highly recommend "Categories for the Working Mathematician" not only to my fellow working mathematicians but also to anyone with an interest in higher mathematics as there are almost no prerequisites for this self-contained masterpiece.

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