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Briggs, William

Ants, bikes and clocks. Problem solving for undergraduates.

Philadelphia, PA: SIAM (ISBN 0-89871-574-1/pbk). vi, 168 p. (2005).

A new and refreshing glance in problem solving is well presented in this book. Emphasis is given on modeling or story problems and the use of both analytical and computational tools to solve the resulting mathematical problem. The structure of the book is also innovative: in chapter 2 a problem-solving framework is presented combined with appropriate strategies in chapter 3, while in chapter 4 we are faced with optimization problems. Problems that involve proportions, fractions and percentages are examined in chapter 5 and problems of rate in chapter 6. This is followed by problems of infinite and discrete calculus which are presented in chapters 7 and 8, respectively. The methods that illustrate the role of computing in problem solving in chapter 9 are very interesting, as are those concerning discrete and geometric probability in chapter 10. The last chapter introduces the modeling process and concludes this very interesting book.

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Classification: U45 D55

Keywords: problem solving; collection of problems; undergraduate techniques