

# Preface

This book originally appeared as part of Springer's excellent 'Essential' series and was revised to include chapters on analytical geometry, barycentric coordinates, and worked examples. The third edition included a new chapter on geometric algebra, which I have written about in my books *Geometric Algebra for Computer Graphics* and *Geometric Algebra: An Algebraic System for Computer Games and Animation*. In the fourth edition, I reviewed the entire book and included chapters on differential and integral calculus, which I have written about in *Calculus for Computer Graphics*. This fifth edition includes some revisions and new content published in my recent book *Foundation Mathematics for Computer Science*. I have also redrawn all the figures in colour using Apple's *Pages* and *Grapher*, which improve the book's visual appearance.

Whilst writing this book, I have borne in mind what it was like for me when I was studying different areas of mathematics for the first time. In spite of reading and rereading an explanation several times, it could take days before 'the penny dropped' and a concept became apparent. Hopefully, the reader will find the following explanations useful in developing their understanding of these specific areas of mathematics and enjoy the sound of various pennies dropping!

I would like to thank Beverley Ford, General Manager, Springer UK, and Helen Desmond, Editor for Computer Science, for persuading me to give up holidays and hobbies in order to complete this fifth edition!

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