Mathematics for Human Flourishing
by Francis Su

This unconventional book grew out of Su’s highly regarded 2017 speech as outgoing president of the Mathematical Association of America. In the speech, which garnered great acclaim among mathematicians and a significant amount of media coverage, Su proposed a moral argument that mathematics belongs to everyone and that the practice of mathematics can and should shape us as human beings. “This book is not about how great mathematics is,” Su writes in the preface, “this is a book that grounds mathematics in what it means to be a human being and to live a more fully human life.” This book is suitable for a broad audience, especially for those who do not see themselves as “math people.”

Mathematics for Human Flourishing builds upon the themes of Su’s speech and explains how mathematics satisfies basic human desires, among which Su includes play, beauty, permanence, truth, justice, freedom, community, and love. With a combination of emotionally charged anecdotes, mind-bending puzzles, and deeply personal reflections, Su explains how mathematics relates to these ideals, each central to human flourishing. Interwoven throughout the book are excerpts from the letters of Christopher Jackson, an incarcerated individual who has corresponded with Su about mathematics for many years. The book ends with questions for further discussion and solutions to the various puzzles interspersed throughout the book.

Curves for the Mathematically Curious
An Anthology of the Unpredictable, Historical, Beautiful, and Romantic
by Julian Havil

Havil, the author of several other mathematics titles published by Princeton, has assembled a collection of ten historical and technical profiles of important curves that have arisen throughout the history of mathematics. Each receives roughly twenty pages of treatment, albeit with a large standard deviation. The selections are not meant to be universal, rather they are reflections of Havil’s tastes and inclinations. It is hard to argue with the final list: the Euler spiral, the Weierstrass continuous but nowhere-differentiable function, Bézier curves, the rectangular hyperbola (from which logarithms derive), the quadratrix of Hippias, classical space-filling curves (of Hilbert and Peano), curves of constant width, the normal curve, the catenary, and elliptic curves. These cover a wide range of topics from geometry, calculus, probability, and analysis. Of course, selecting ten curves for this anthology required some hard choices. For example, there is no chapter devoted to conic sections (as Havil cleverly argues by analogy, “not every anthology of poems contains works by Shakespeare”).

Mathematicians will appreciate this book as a friendly survey of the historical progression behind some old favorites. Curves for the Mathematically Curious is not a simple read for those with short attention spans. Some of the original (often geometric) arguments are reproduced along with the occasionally verbose and somewhat cryptic passages from the original discoverers. Not only does this keep the historical discussion honest it also informs the reader of the trials and errors, the sparks of ingenuity, and the cumbersome notation from the initial development of the topic.