but rather with novel applications of the tools of the Malliavin calculus. While the applications using the Malliavin derivative (already discussed) are not mentioned by Bell, he does nevertheless present diverse applications in Chapter 7, including such disparate subjects as filtering theory and infinite particle systems. Here he could be a bit more authoritative: For example, in the filtering theory section he should mention further work, at least at the bibliographic level (e.g., [**1**, **2** and **5**]).

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A course in constructive algebra, by Ray Mines, Fred Richman, and Wim Ruitenburg. Universitext, Springer-Verlag, New York, Berlin, Heidelberg, xi + 344 pp., $32.00. ISBN 0-387-96640-4

Is every ideal J in the ring $\mathbf{Z}$ of integers principal?—that is, given an ideal J of $\mathbf{Z}$, can we find an integer m—called a generator of J—such that $J = (m) \equiv \{km\colon k \in \mathbf{Z}\}$? The classical answer to this question is "Yes: for either J is $\{0\}$ or else we can take m to be the smallest positive integer in J". However, suppose we take the word "find" literally in the above question: is there an algorithm which, applied to any ideal J of $\mathbf{Z}$, will compute a nonnegative integer m such that $J = (m)$?

Consider the application of such an algorithm, if it exists, to the ideal

$$J \equiv (2) + \{ka_n\colon k \in \mathbf{Z}, n \geq 1\},$$