

# Errata for A Course in Mathematical Methods for Physicists

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## Chapter 4

The correct Problem 19 should be:

19. Determine the circumference of an ellipse in terms of an elliptic integral.

## Chapter 5

The correct Problem 19 should be:

19. Differentiate the Fourier sine series term by term in Problem 18. Show that the result is not the derivative of  $f(x) = x$ .

## Chapter 10

7. The set of data for Problem 7 is missing from the text. It is shown in Table 1, which was extracted from Hubble's 1929 paper<sup>1</sup>

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<sup>1</sup> "A Relation Between Distance and Radial Velocity Among Extra-Galactic Nebulae", E. Hubble, *Proc. Nat. Acad.* **15**, 168 (1929).

| Object  | Dist (Mpc) | Vel (km/s) | Object  | Dist (Mpc) | Vel (km/s) |
|---------|------------|------------|---------|------------|------------|
| S. Mag. | 0.032      | +170       | NGC3627 | 0.9        | +650       |
| L. Mag. | 0.034      | +290       | NGC4826 | 0.9        | +150       |
| NGC6822 | 0.214      | -130       | NGC5236 | 0.9        | +500       |
| NGC598  | 0.263      | -70        | NGC1068 | 1.0        | +920       |
| NGC221  | 0.275      | -185       | NGC5055 | 1.1        | +450       |
| NGC224  | 0.275      | -220       | NGC7331 | 1.1        | +500       |
| NGC5457 | 0.45       | +200       | NGC4258 | 1.4        | +500       |
| NGC4736 | 0.5        | +290       | NGC4151 | 1.7        | +960       |
| NGC5194 | 0.5        | +270       | NGC4382 | 2.0        | +500       |
| NGC4449 | 0.63       | +200       | NGC4472 | 2.0        | +850       |
| NGC4214 | 0.8        | +300       | NGC4486 | 2.0        | +800       |
| NGC3031 | 0.9        | -30        | NGC4649 | 2.0        | +1090      |

Table 1: The data from Hubble's 1929 paper.