Lecture Quiz
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To Accompany: Numerical Differentiation Computational Physics, Wiley-VCH

1. The mathematicians tell us that the derivative

$$\frac{dy}{dy} = \lim_{h \to 0} \frac{f(t+h) - f(t)}{h}.$$

What's the problem with using this definition on a computer?

- 2. How does one change the definition of derivative in question 1. to a practical algorithm?
- 3. What's the difference between the forward difference and the central difference algorithms for a derivative?
- 4. How do you derive an algorithm for a second derivative from the algorithm for the first derivative?