Numerical Geophysics – I

1. What is a pseudospectral method? Give an example.

2. Please write down a definition of the Fourier transform.

3. What is so fast about the Fast Fourier Transform?

4. In words: How do you derive the Fourier coefficients?

5. What is the condition for two functions to be orthogonal? What does it mean?

6. What are the characteristics of Chebyshev polynoms?

7. Can you write down a Differentiation matrix (10x10) for the finite difference method?