Readings and Discussion Questions

Thursday September 14

Read Chapters: $2.3.4, 2.4$

Discussion Questions

1. In what sense can the proof of Theorem 10 be interpreted as "energy dissipation"? What do you think happens as $t \to \infty$?

2. What does Theorem 11 imply about recovering historical temperature data from current temperature data? What does this say about Fourier's dream of estimating the age of the earth using current temperature data from the full interior of the earth?

3. The wave equation is second order in space and time. So is the Laplace equation in $n + 1$ variables. Does this mean there is a close analogy between the two?