

Show all appropriate work.

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1. Show that  $L = a_n(x)D^n + a_{n-1}(x)D^{n-1} + \cdots + a_1(x)D + a_0(x)$  is a linear operator.
2. Problems from the book:
  - (a) Section 3.1: 3, 12, 13.
  - (b) Section 3.2: 1, 4, 5, 16, 19.

The last three problems might be easier after Tuesday's lecture.