
Supplementary Material for Lecture 3

Mesterton-Gibbons, STML 50
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Additional exercise for Lecture 3

7. Refine the condition you obtained in Exercise 3 by showing that there is an admissible extremal for minimizing

$$J[y] = \int_a^b e^x \sqrt{1 + (y')^2} dx$$

with $y(a) = \alpha$ and $y(b) = \beta$ only if $|\beta - \alpha| < \frac{1}{2}\pi$.