

1. D&M 3.10
2. State and prove a version of the previous problem that holds for real inner product spaces.
3. D&M 3.13
4. Suppose $x > 0$ and $0 < \theta < 1$. Show that

$$x^\theta \leq \theta x + (1 - \theta)$$

with equality if and only if $x = 1$.

5. D&M 1.12
6. D&M 1.21