## [EP] Eriksen, Problems and Solutions Graduate Mathematics

## Corrections for First Edition, First Printing (2021)

## Corrections

Problem 4.13a: The answer positive definite should be positive semidefinite.
Problem 4.15: The expression $2 \lambda_{1}+3 \lambda_{2}$ should be $4 \lambda_{1}+9 \lambda_{2}$, and the expression $\left(\lambda_{1}-\lambda_{2}\right) \mathbf{v} \cdot \mathbf{w}$ should be $\left(-\lambda_{1}-\lambda_{2}\right) \mathbf{v} \cdot \mathbf{w}$ in the displayed formula. In the explanation, $\mathbf{v}^{T} \mathbf{v}=\|\mathbf{v}\|=2$ should be $\mathbf{v}^{T} \mathbf{v}=\|\mathbf{v}\|^{2}=4$, $\mathbf{w}^{T} \mathbf{w}=\|\mathbf{w}\|=3$ should be $\mathbf{w}^{T} \mathbf{w}=\|\mathbf{w}\|^{2}=9$, and the last part, starting from We claim that... should be replaced by If $\lambda_{1} \neq \lambda_{2}$, then $\mathbf{v} \cdot \mathbf{w}=0$. Hence $f(\mathbf{v}-\mathbf{w})=4 \lambda_{1}+9 \lambda_{2}$ when $\lambda_{1} \neq \lambda_{2}$, and if $\lambda_{1}=\lambda_{2}$, then $f(\mathbf{v}-\mathbf{w})=13 \lambda_{1}-2 \lambda_{1} \mathbf{v} \cdot \mathbf{w}$.
Solutions to final exam BI, November 2019: The printed solutions are from another exam, see https://www.dr-eriksen.no/teaching/GRA6035/Exams/final-2019-11-sol.pdf for the solutions to Final exam BI, November 2019.

