- The Euclidean space $\mathbb{E}^n$.

- The *polar form* of a quadratic form.

- *Gram matrix* associated with an inner product.

- The *Cauchy–Schwarz inequality*; the *Minkowski inequality*.

- The *parallelogram law*.

- *Orthogonality*, *orthogonal complement* $F^\perp$; *orthonormal family*.

- The *musical isomorphisms* $\flat \colon E \to E^*$ and $\sharp \colon E^* \to E$ (when E is finite-dimensional); Theorem 12.6.

- The *adjoint* of a linear map (with respect to an inner product).

- Existence of an orthonormal basis in a finite-dimensional Euclidean space (Proposition 12.9).

- The *Gram–Schmidt orthonormalization procedure* (Proposition 12.10).

- The *Legendre* and the *Chebyshev* polynomials.

- *Linear isometries* (*orthogonal transformations*, *rigid motions*).

- The *orthogonal group*, *orthogonal matrices*.

- The matrix representing the adjoint f^* of a linear map f is the transpose of the matrix representing f.

- The *orthogonal group* $\mathbf{O}(n)$ and the *special orthogonal group* $\mathbf{SO}(n)$.

- *QR-decomposition* for invertible matrices.

- The *Hadamard inequality* for arbitrary real matrices.

- The *Hadamard inequality* for symmetric positive semidefinite matrices.

- The *Rodrigues formula* for rotations in $\mathbf{SO}(3)$.