Section 1.5
What was done in 2 and 3 dimensions is extended to n dimensions
Matrix multiplication is introduced.

On page 60 the book is not clear what R^n is.
They call it Euclidean space.

Definitions:
Standard basis

Dot product = inner product

Length = norm of a vector

Use $||x||^2 = x \bullet x$ in exercise 2a

Straightforward results in Theorem 3.

Theorem 4 (Cauchy-Schwarz inequality)
$|x \bullet y| \leq ||x||\ ||y||$

Theorem 5 (Triangle inequality)
$|| x + y || \leq ||x|| + ||y||$

What we learn about matrices:

Matrix addition
Multiplying a matrix by a scalar
Matrix multiplication ← look in book
Identity matrix I_n
Inverse of a matrix
Determinant of a matrix

Properties:

$I_n A = A I_n$
$(AB)C = A(BC)$
$A(3B + 2C) = 3AB + 2AC$ and similar the other way round

Theorem that is not proved:

If A is a square matrix then A is invertible if and only if $\det A \neq 0$.