

## 16.4 Implicit function theorem

[2D4]

We will use the Implicit Function Theorem, in the multivariable version (Theorem 7.7.4 in [3]). We recall it here for convenience, with some small changes in notations.

**Theorem 16.46** (Implicit function theorem in  $\mathbb{R}^n$ ). [\[1GD\]](#)

### Exercises

E16.47 [\[1GF\]](#)

E16.48 [\[1GJ\]](#)

E16.49 [\[1GP\]](#)

E16.50 [\[1GQ\]](#)

E16.51 [\[1GS\]](#)

E16.52 [\[1GW\]](#)

### 16.4.1 Extensions

Now let's see some variations of the "standard" theorem.

### Exercises

E16.53 [\[1GX\]](#)

E16.54 [\[1GZ\]](#)

E16.55 [\[1H1\]](#)

E16.56 [\[1H3\]](#)