Moduldokumentation

Modul Einführung in die Analysis (eana)

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# Einleitung

## Einleitung

Dieses Dokument stellt die Moduldokumentation für das Modul eana dar. Allfällige Unterlagen sind im Modulordner zu finden.

## Lernziele

Das Modul beinhaltet folgende Lernziele:

* Zahlenfolgen und Konvergenz
* Ableitungen von Funktionen und Anwendungen
* Integration
* Ausgewählte Funktionen

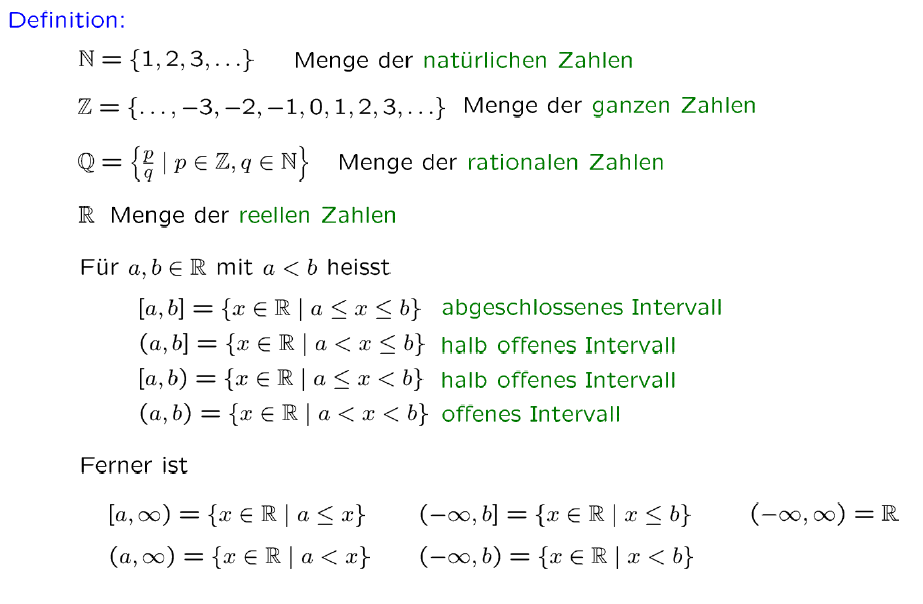
## Prüfungen

Die Modulnote setzt sich zu 50% aus zwei Semesterprüfungen zu je 20% + 10% Aufgabe und einer Modulschlussprüfung zu 50% zusammen.

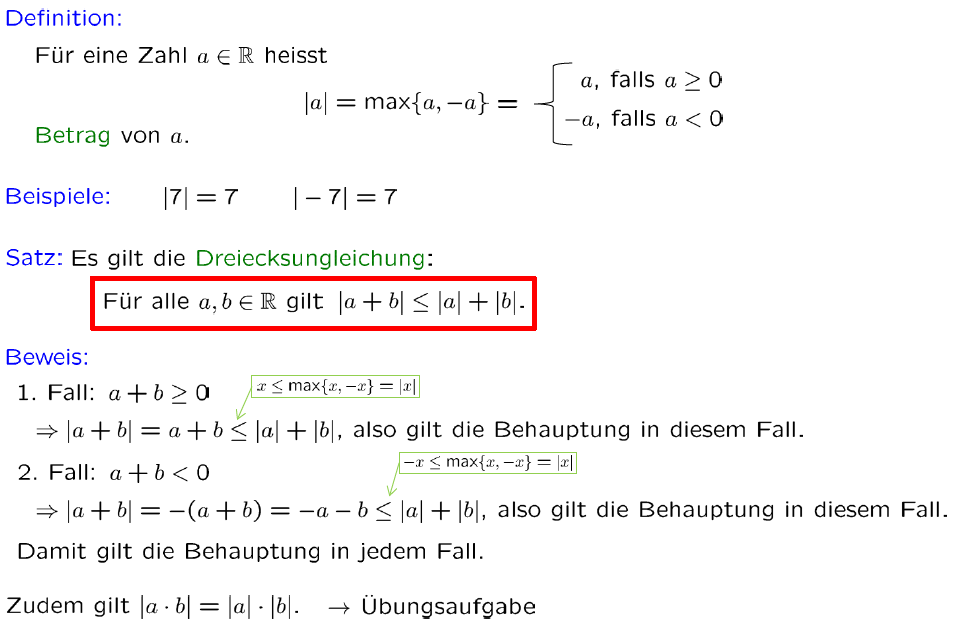
# Woche 1 & 2

## Repetition

### Mengen

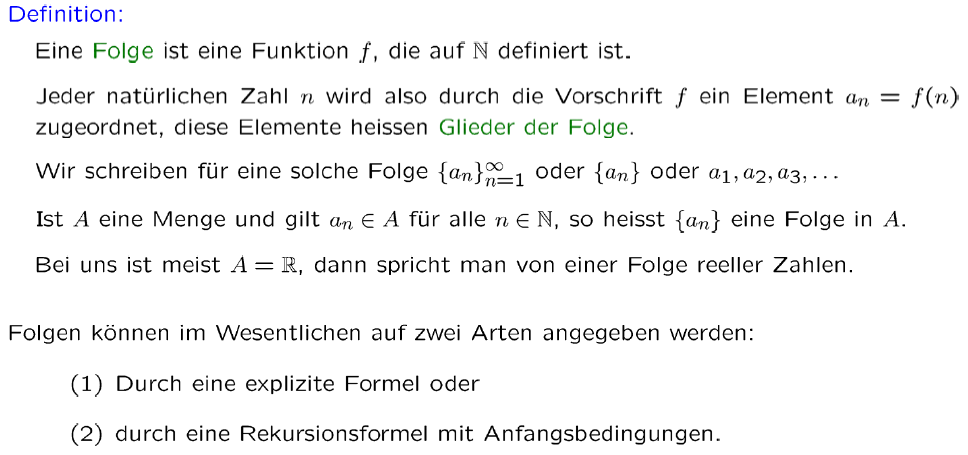


### Betrag

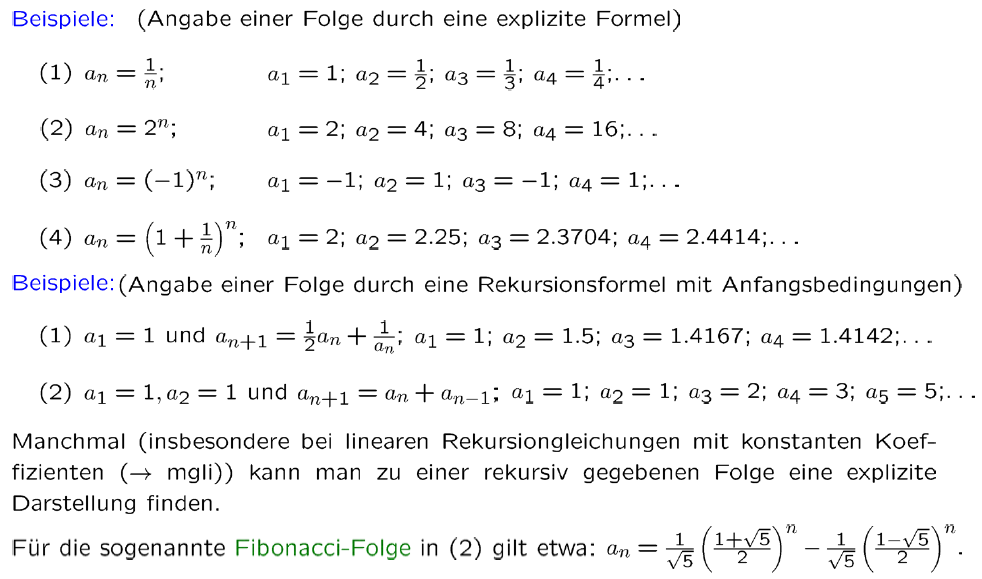


## Folgen

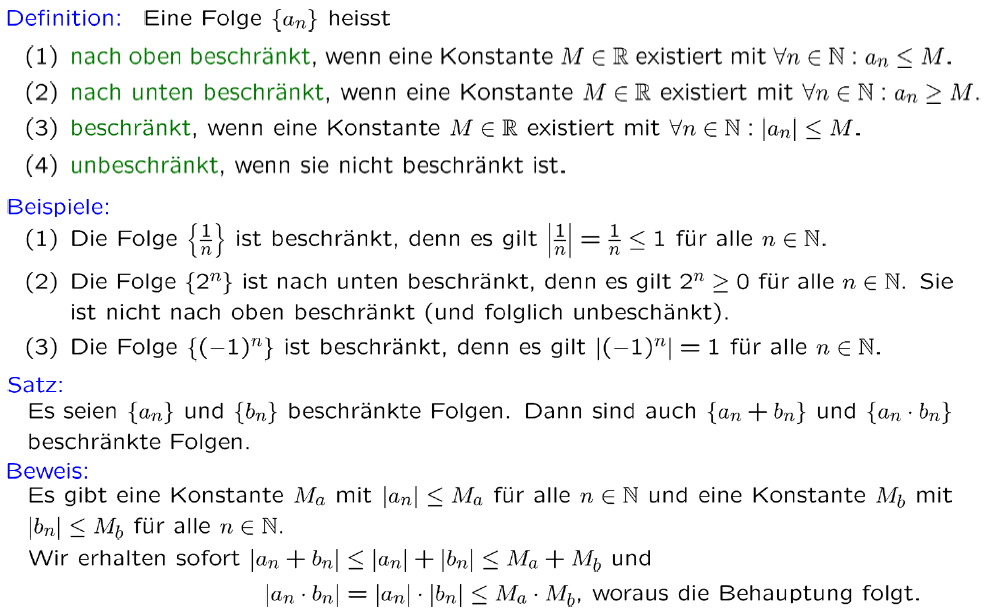
### Definition



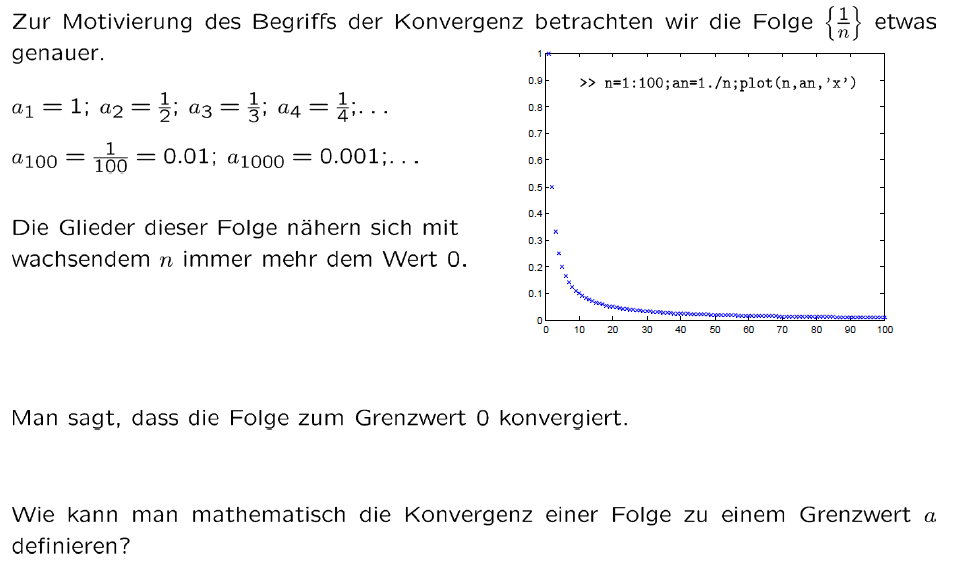
### Beispiele

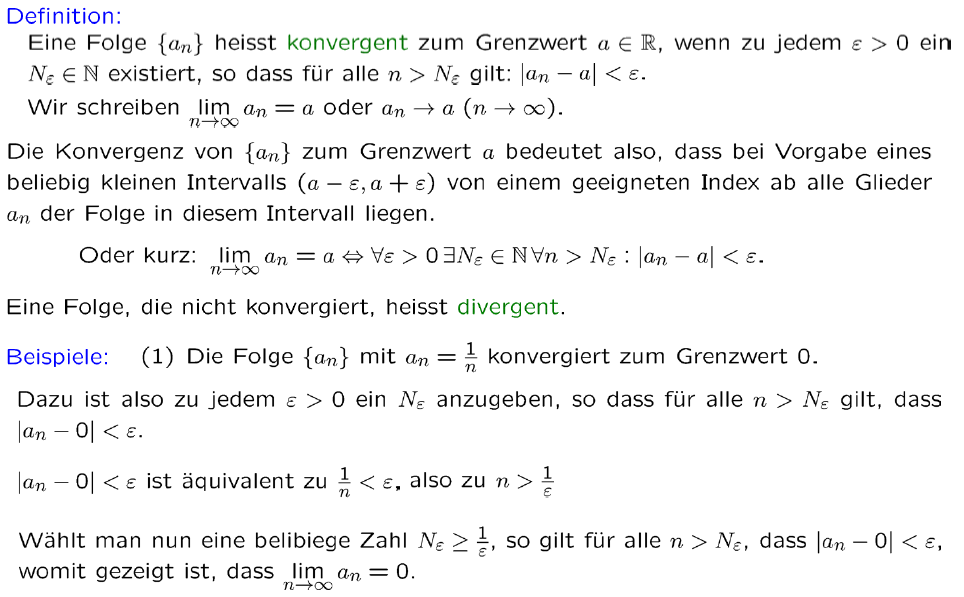


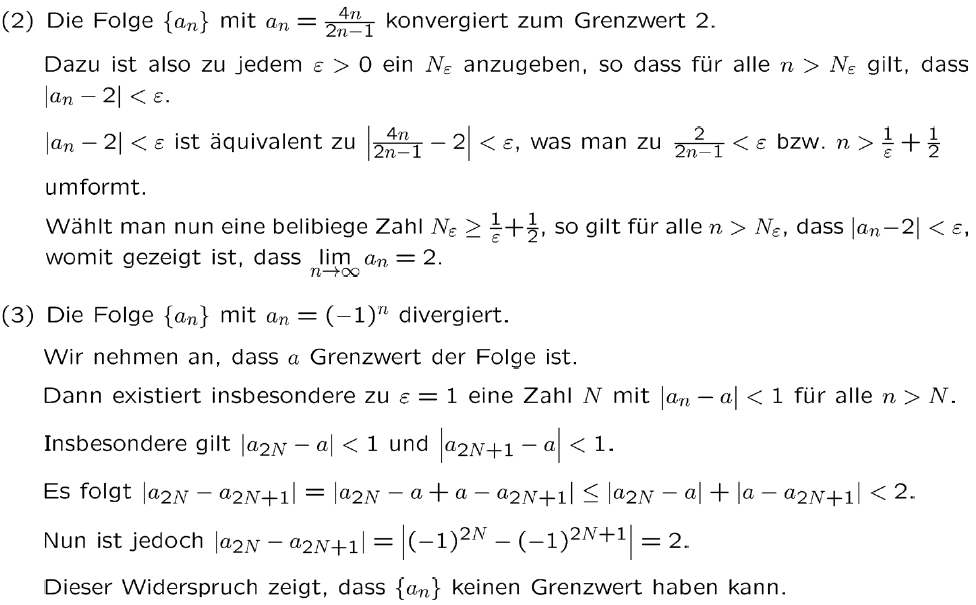
### Beschränktheit

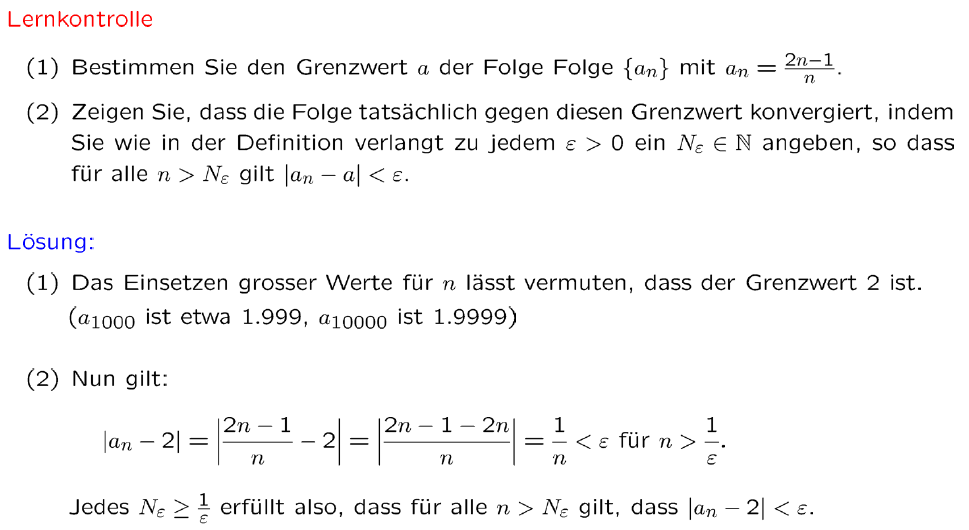


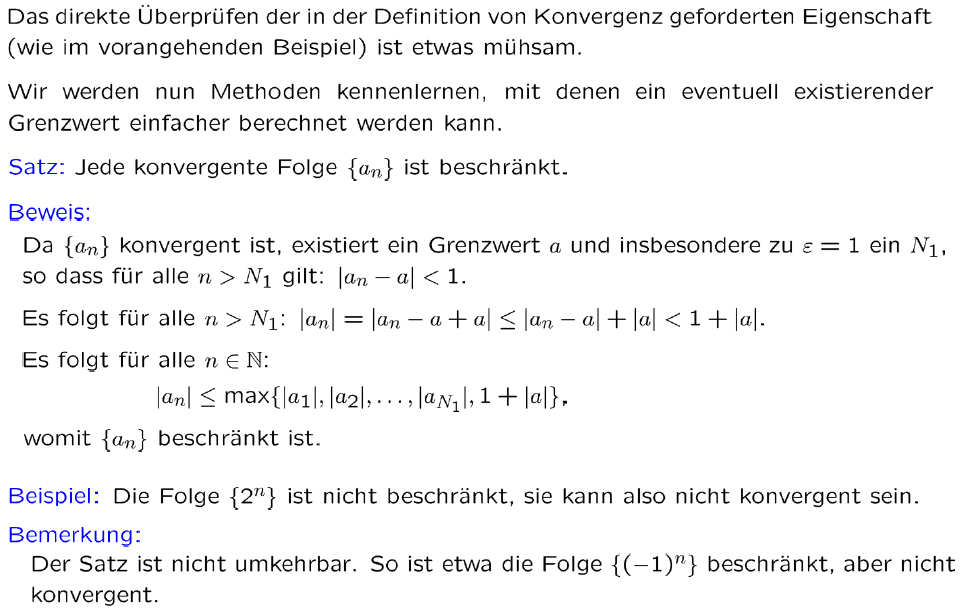
### Konvergenz

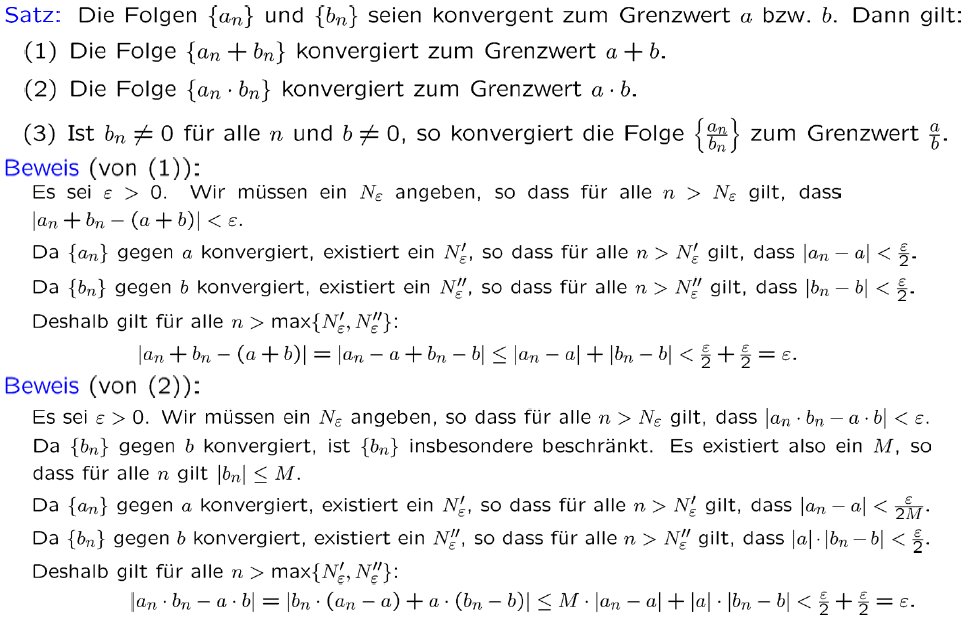


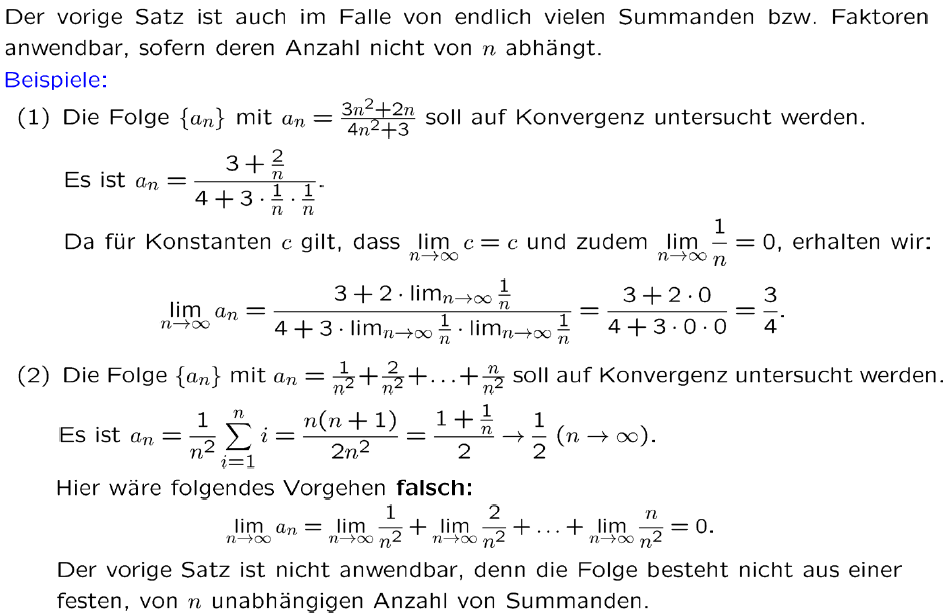


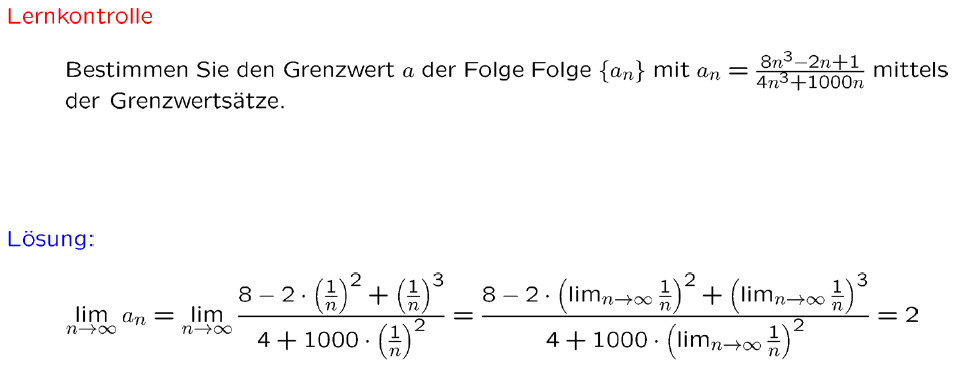








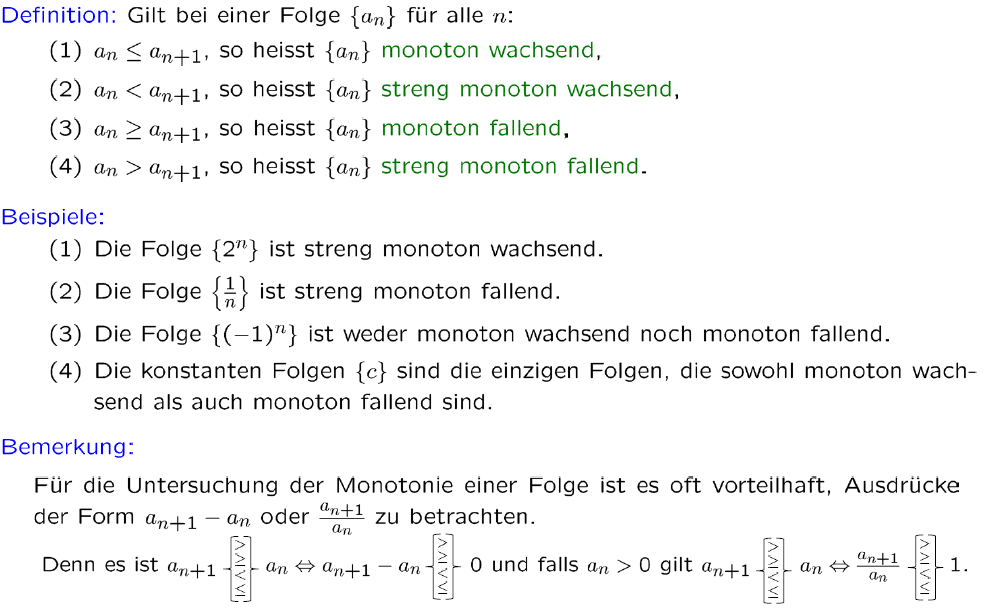


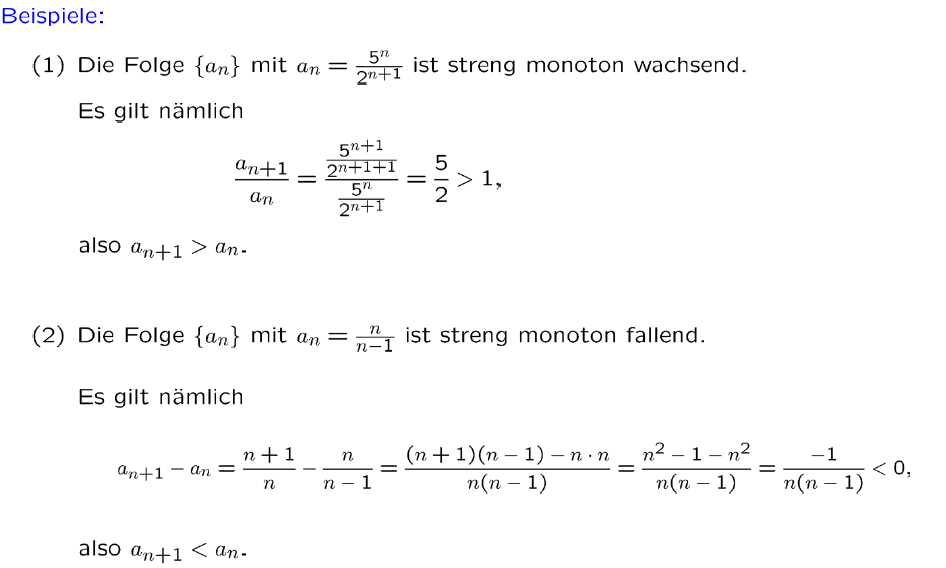


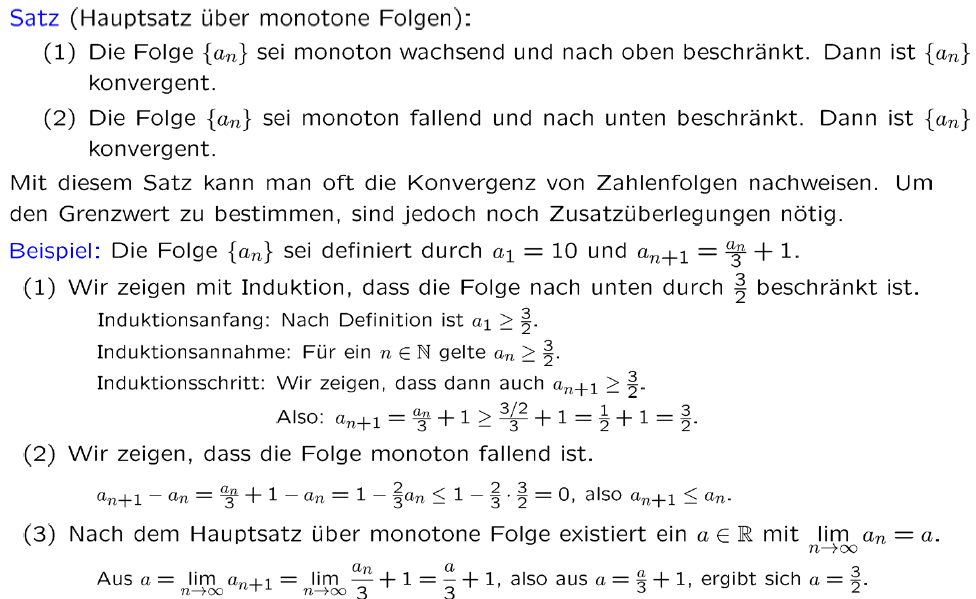
### Anwendung in Matlab

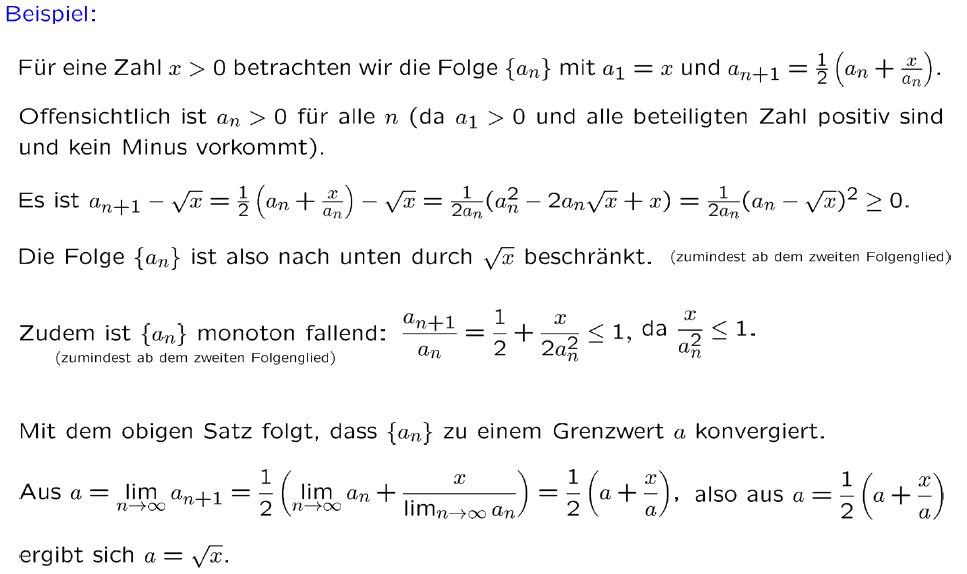


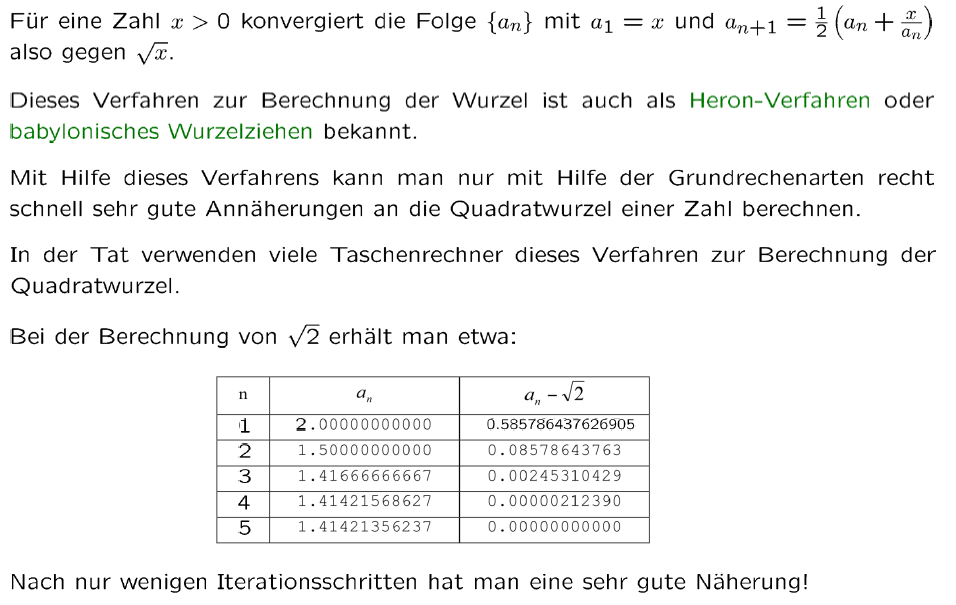
### Monotonie

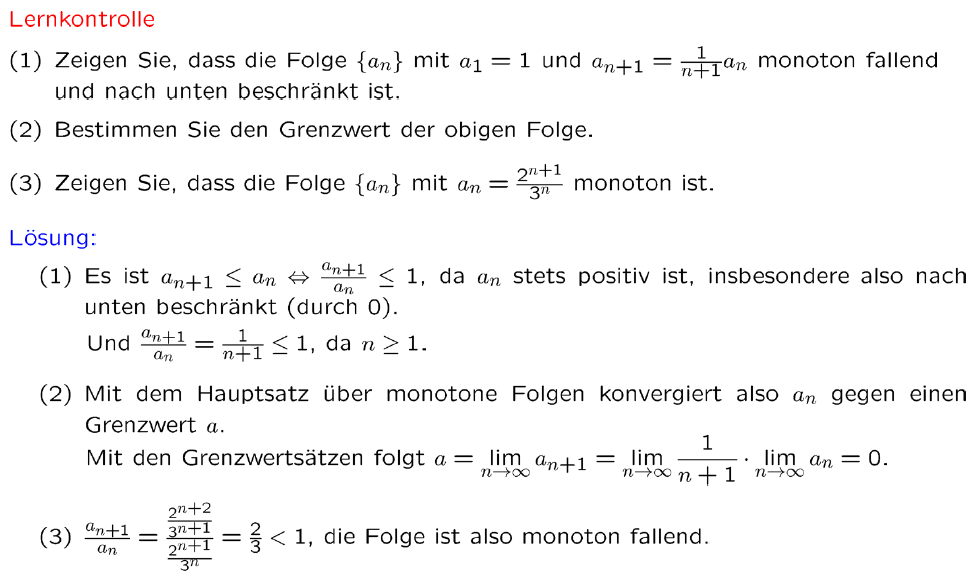




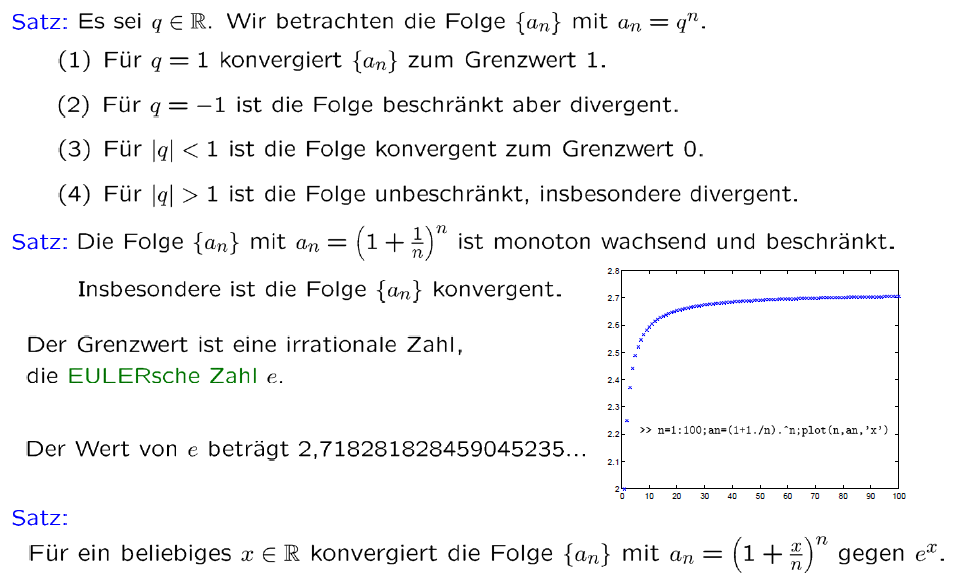




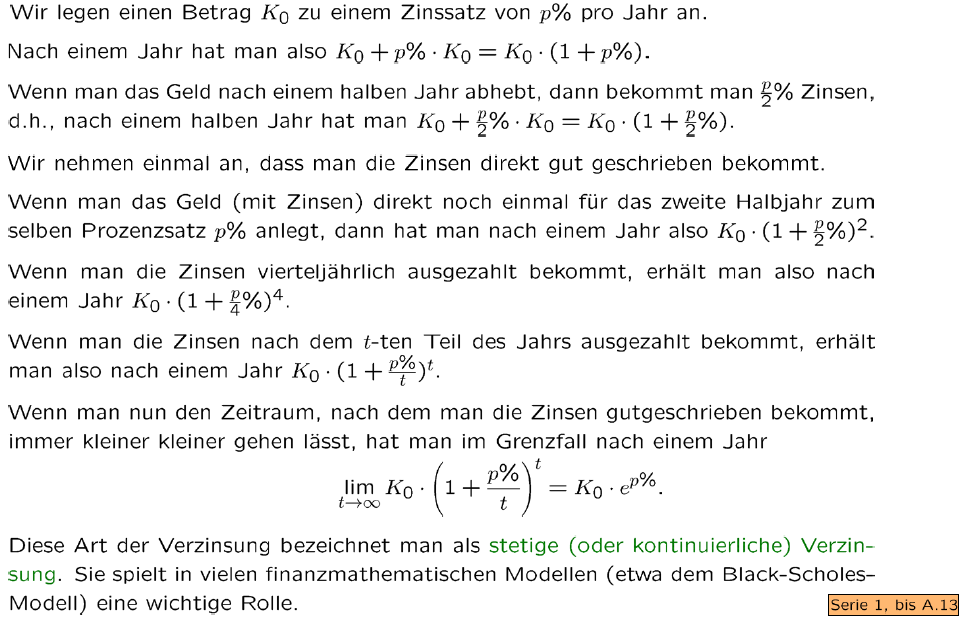




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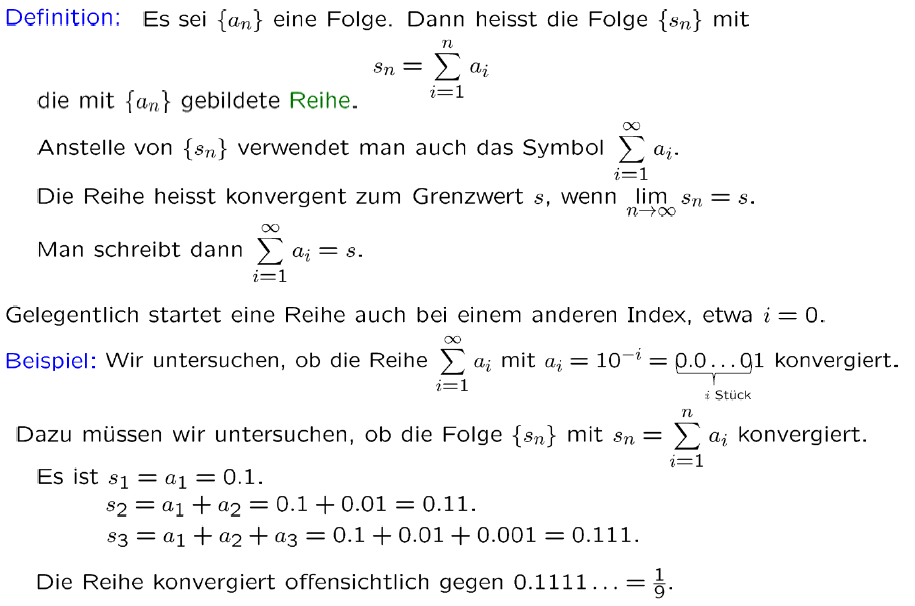


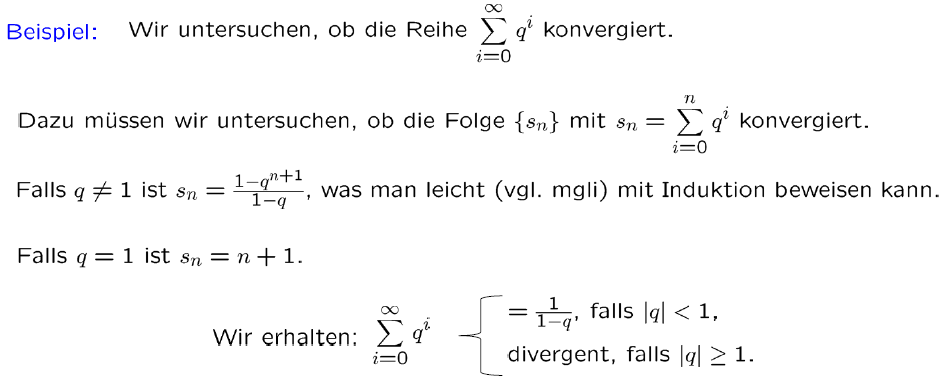
### Stetige Verzinsung



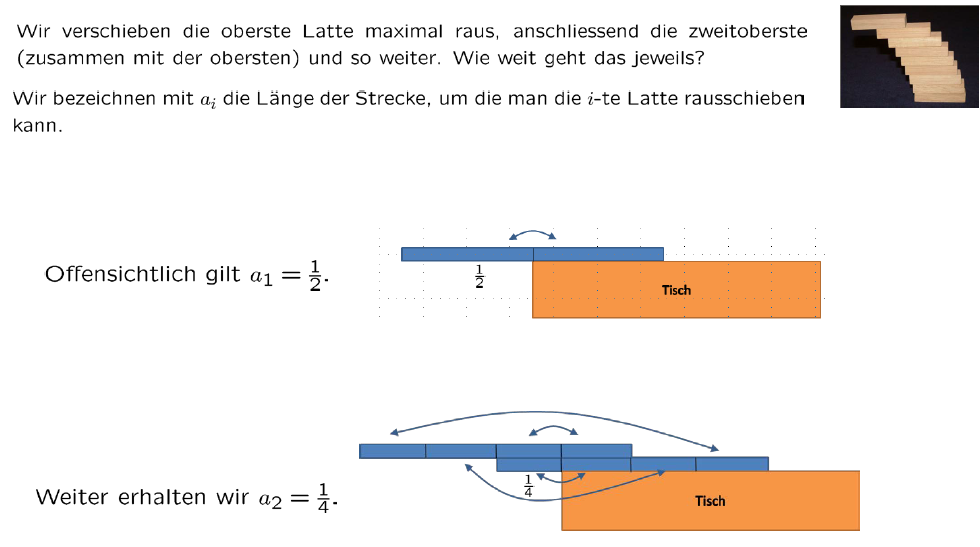
## Reihen

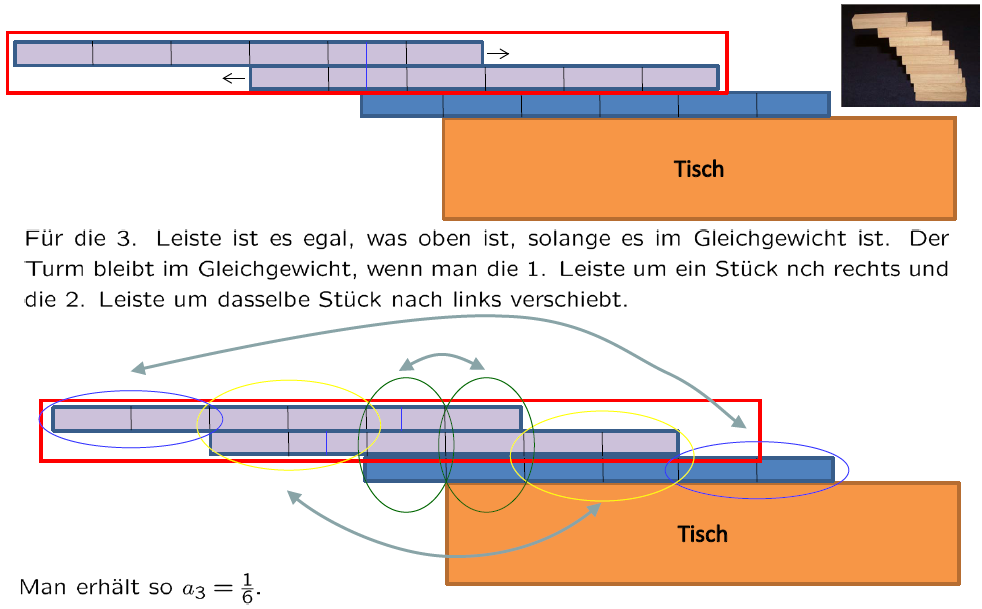
### Definition

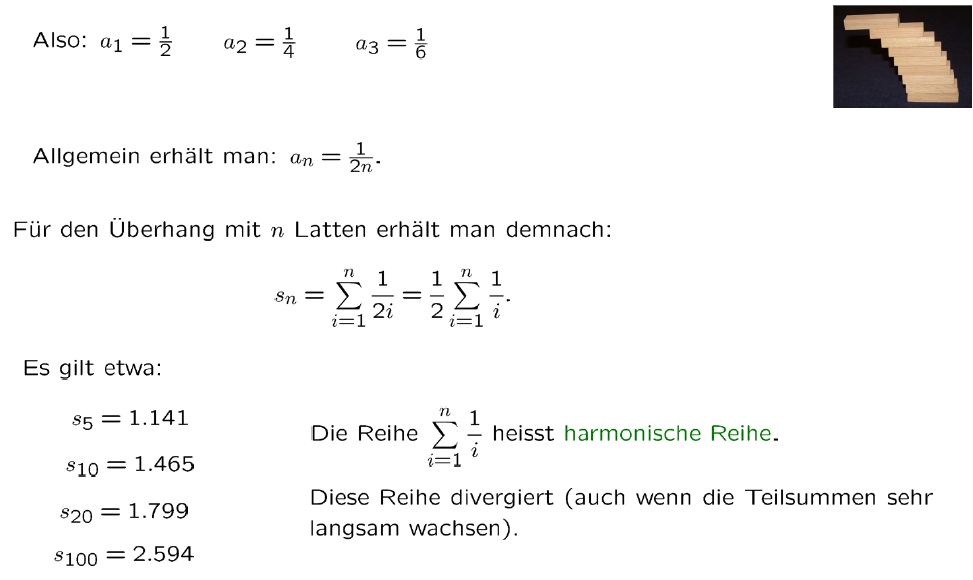




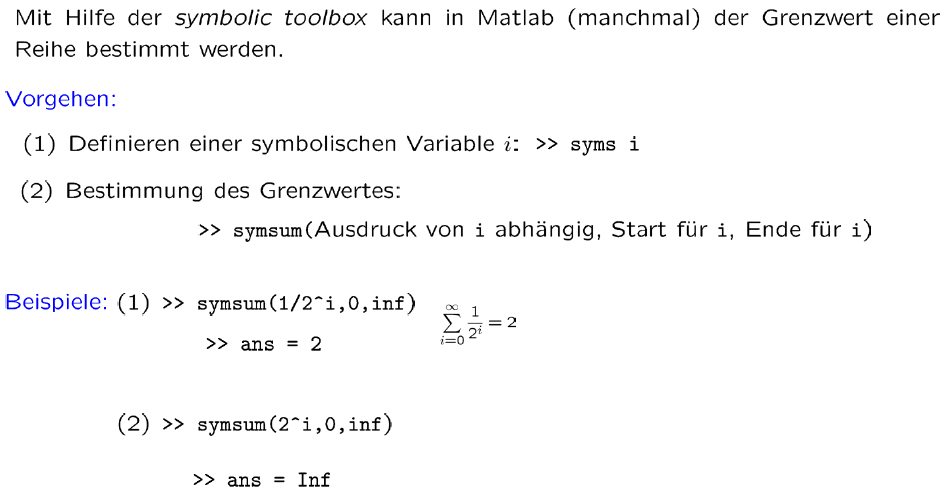








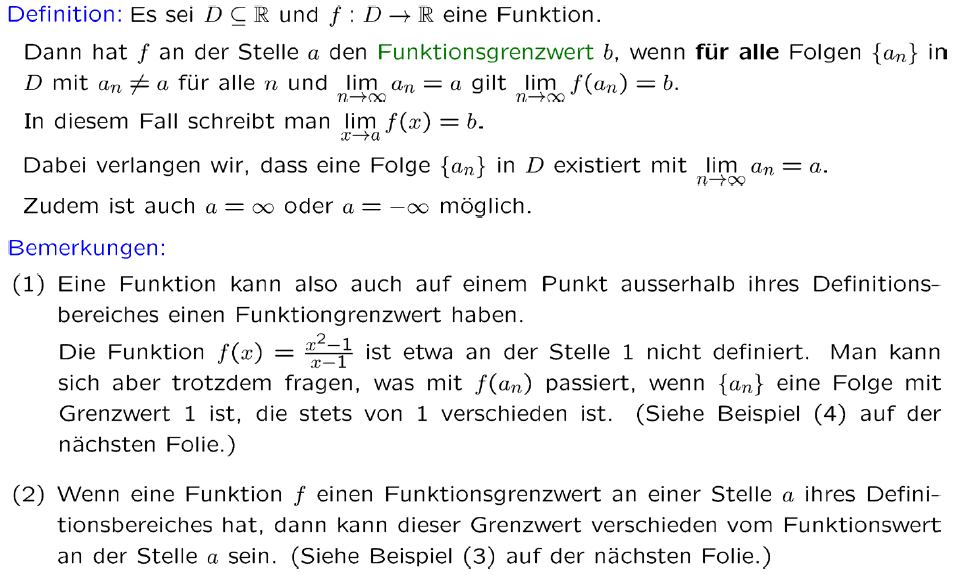
### Anwendung in Matlab



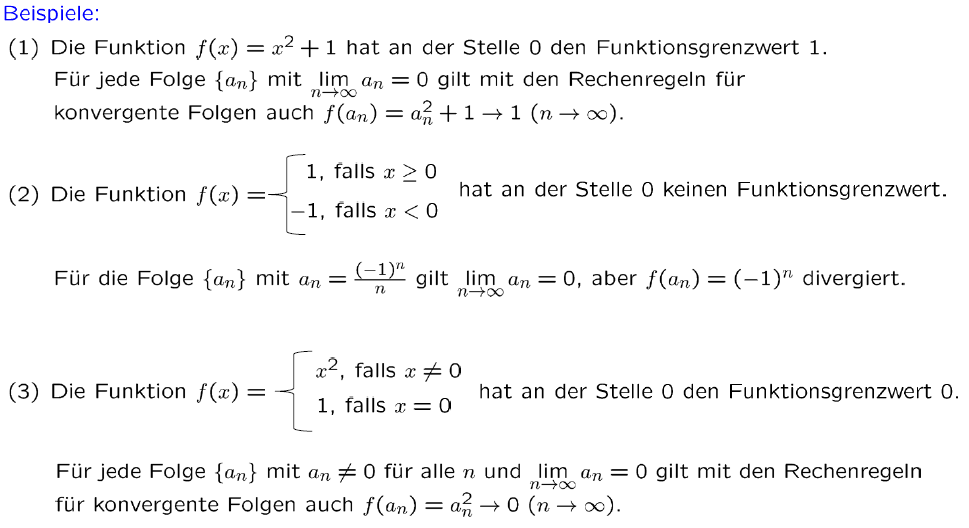
# Woche 3

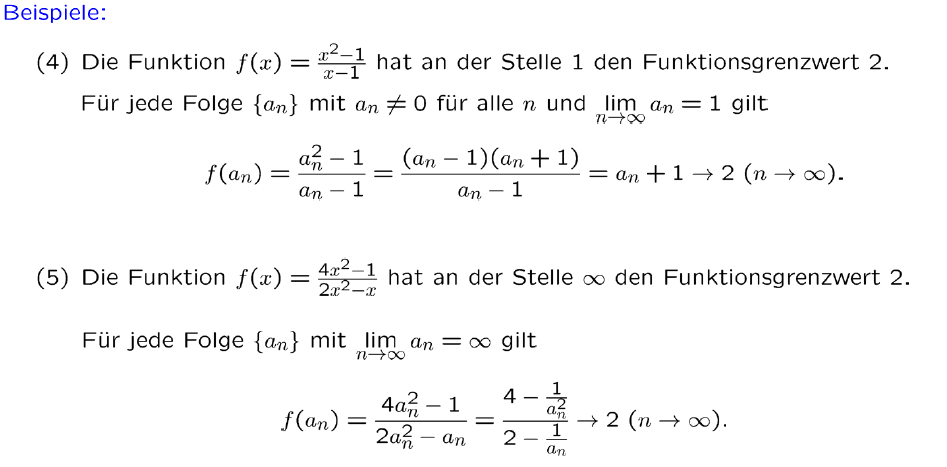
## Stetigkeit

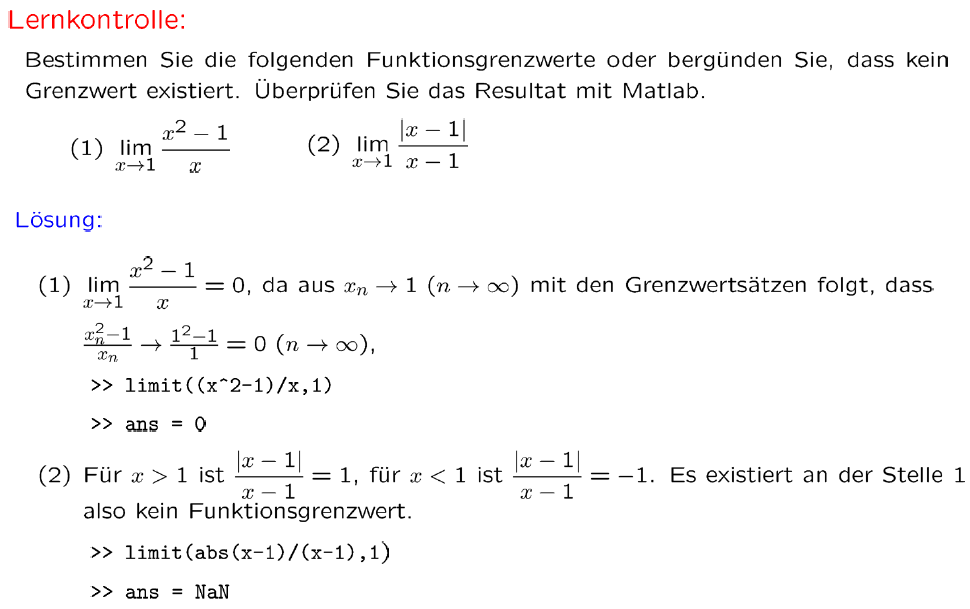
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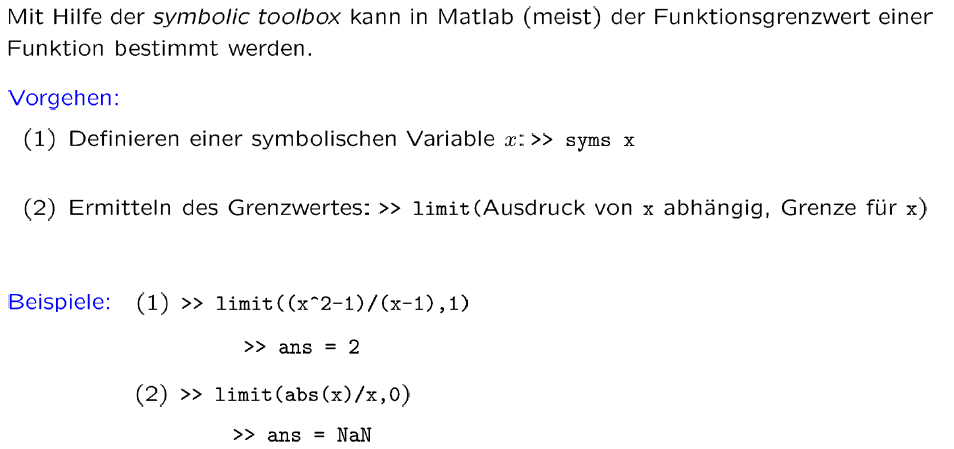
### Beispiele



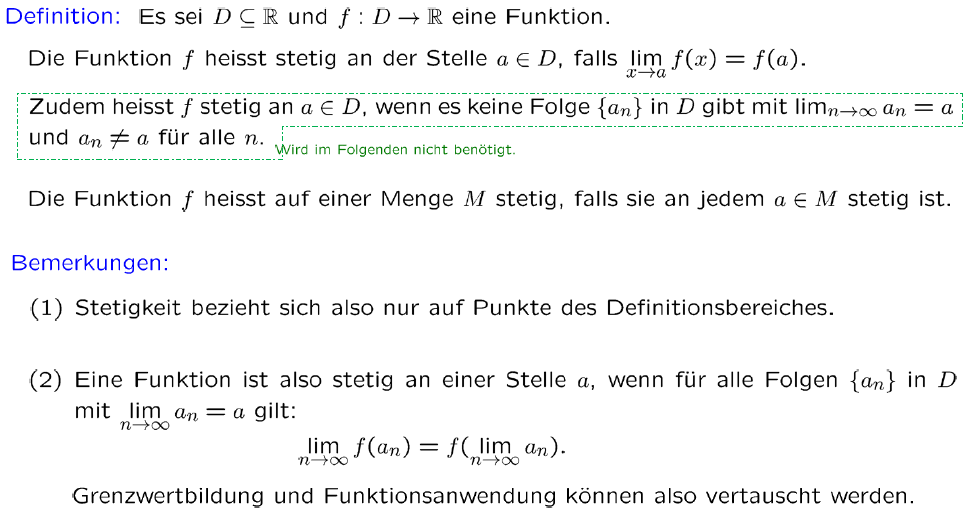




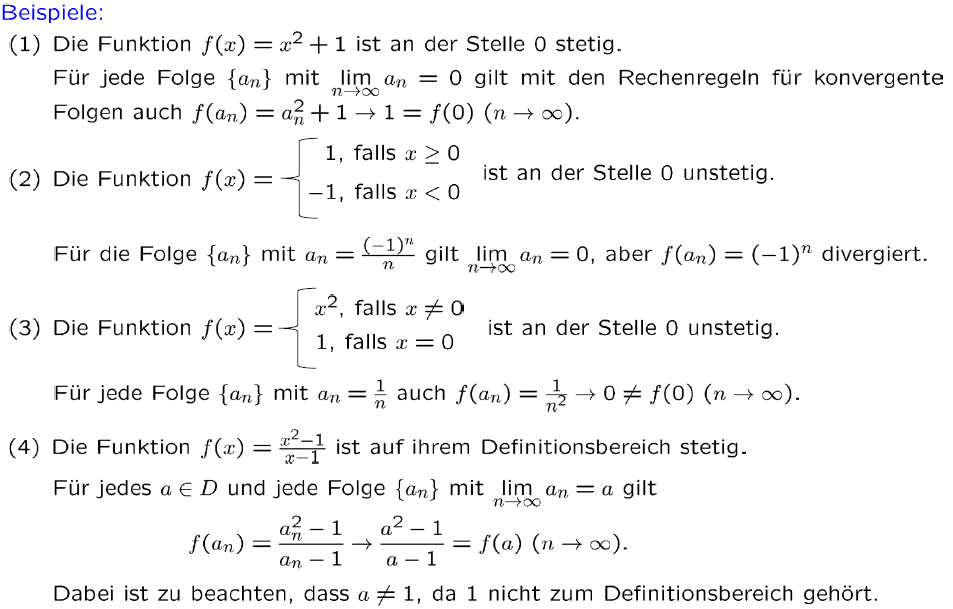
### Anwendung in Matlab

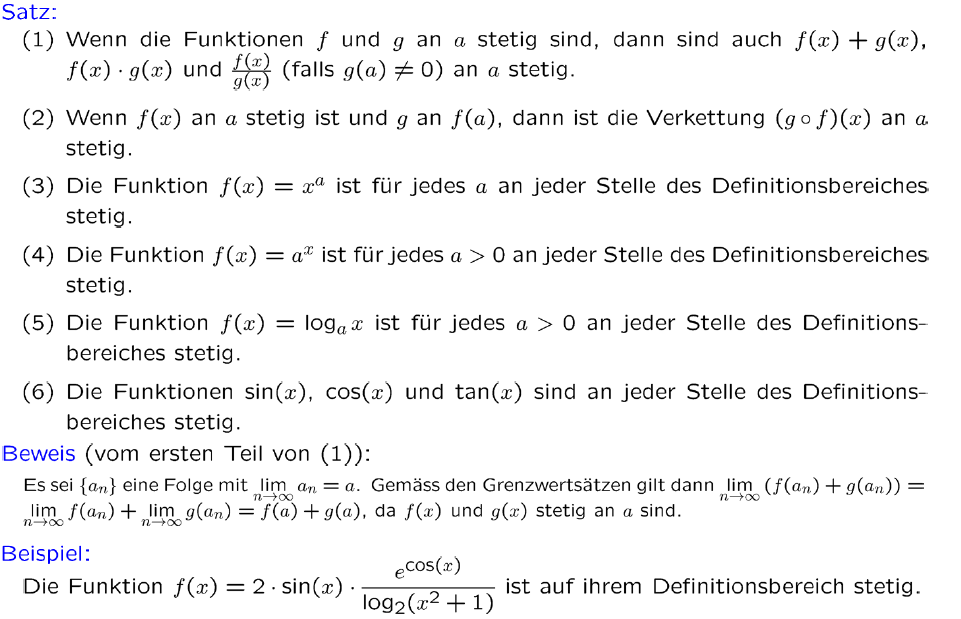


### Stetigkeit

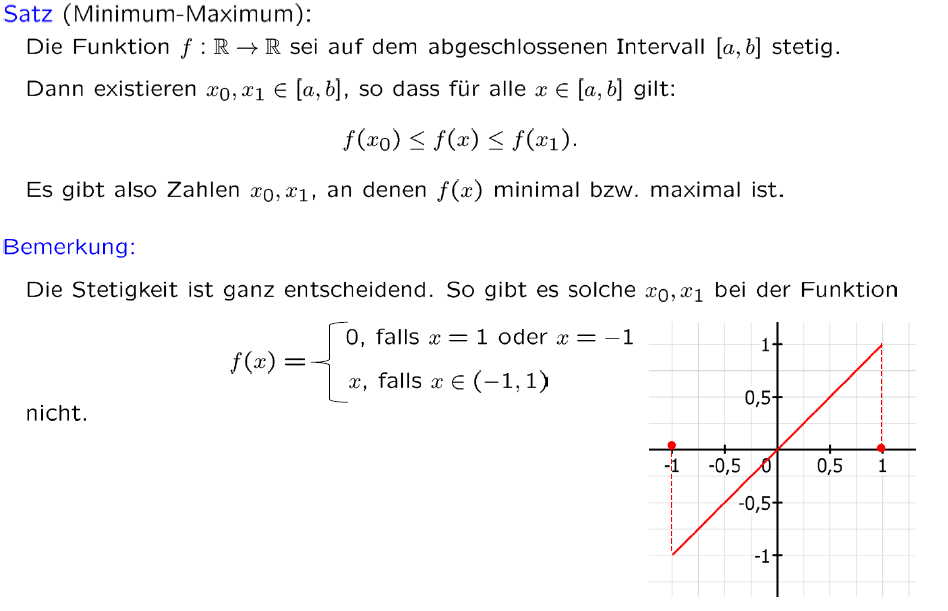


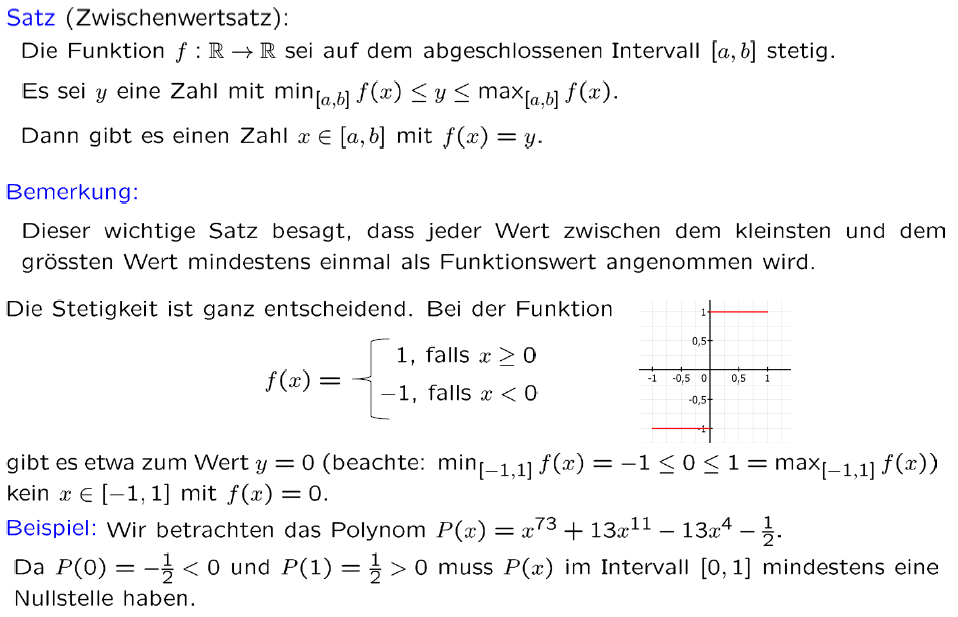
### Beispiele





### Eigenschaft stetiger Funktionen

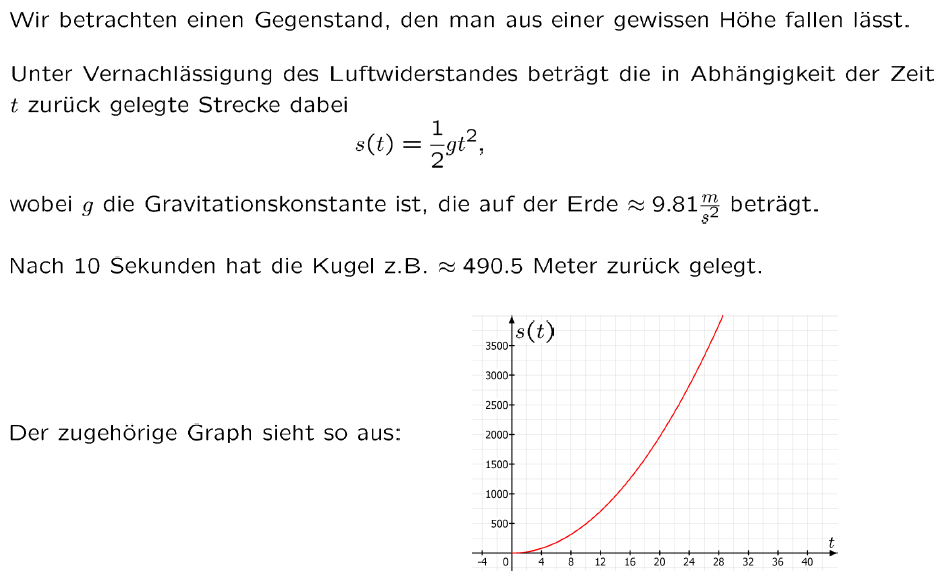


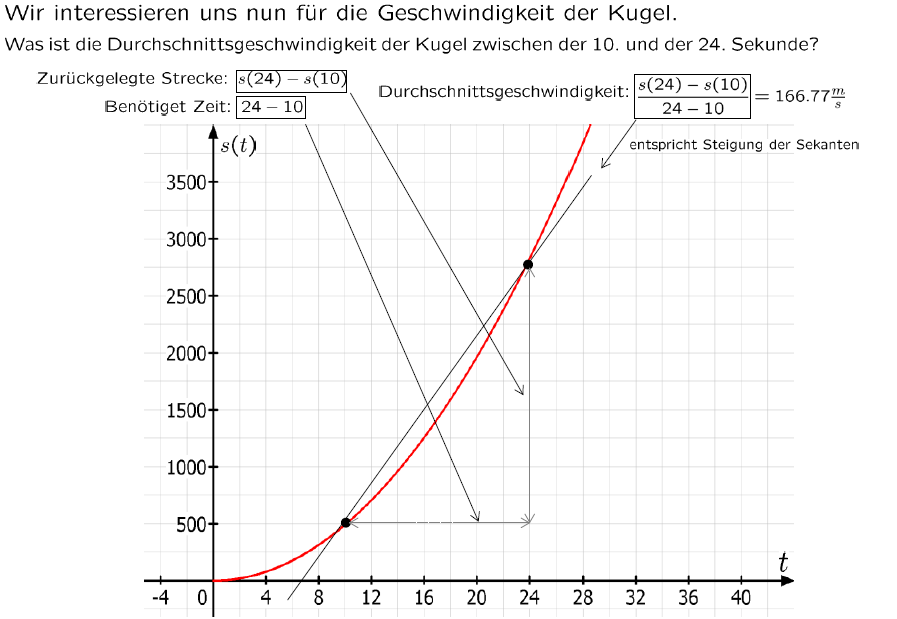


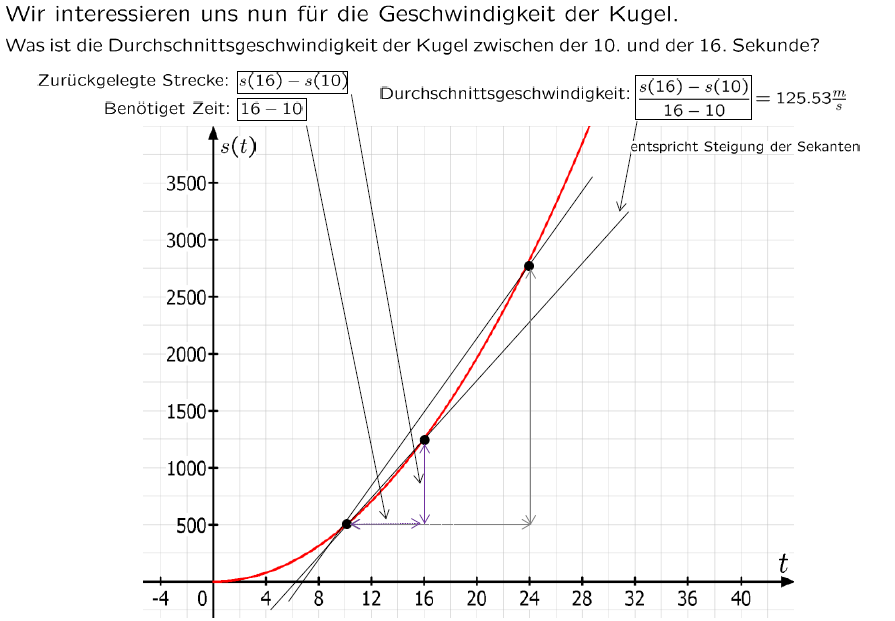
# Woche 4 & 5

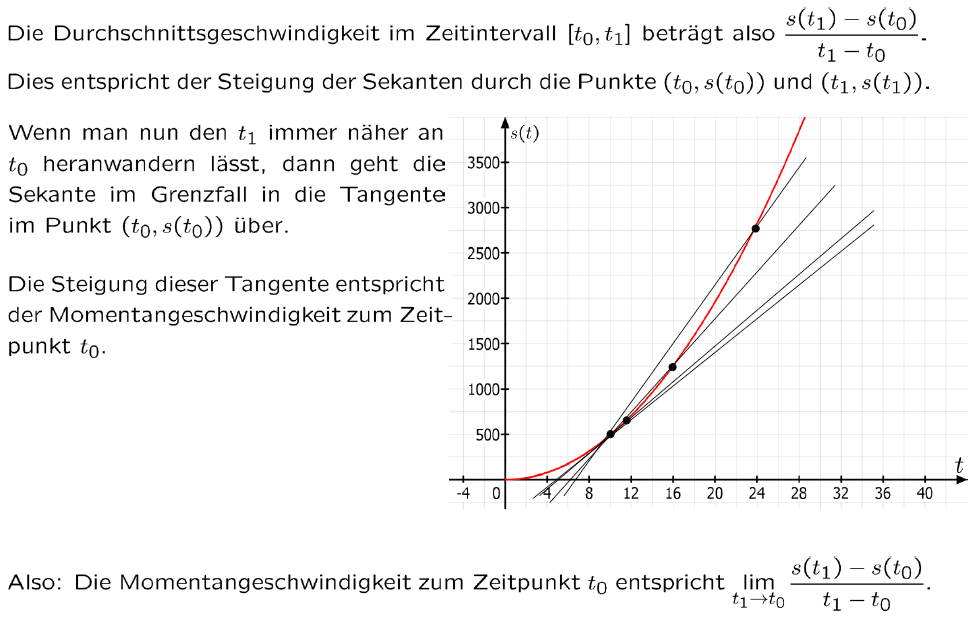
## Differentialrechnungen

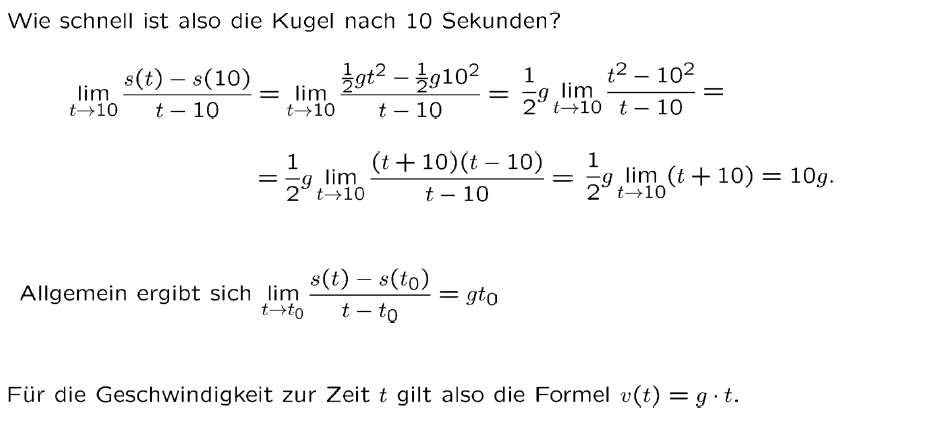
### Motivation freier Fall

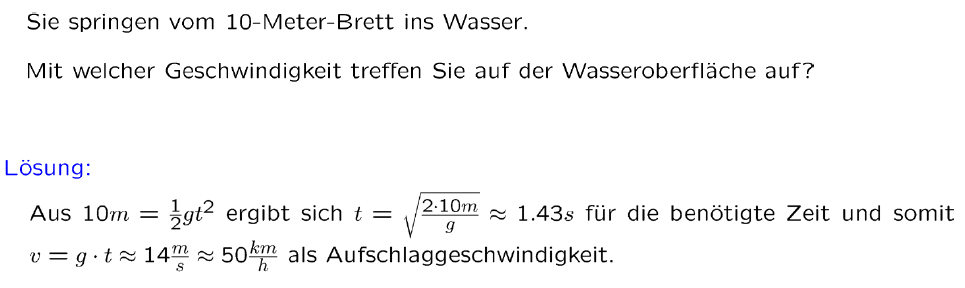




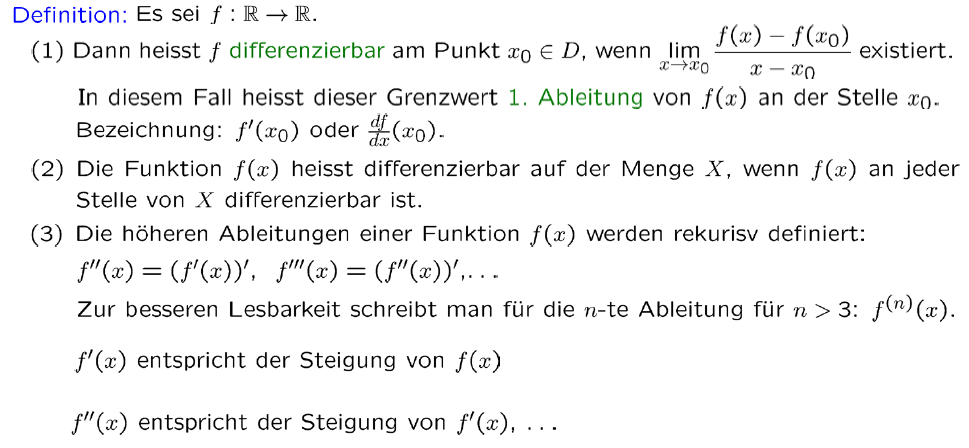




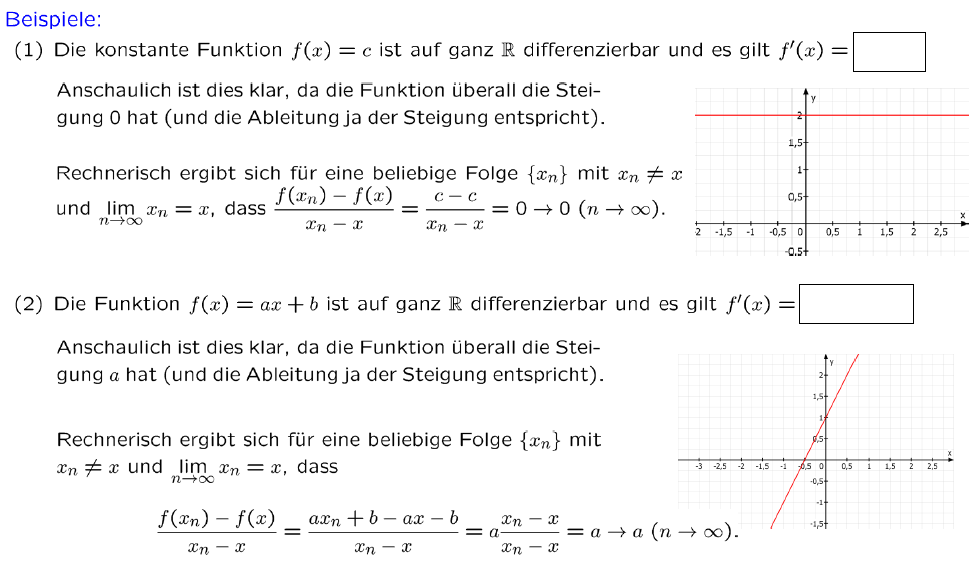




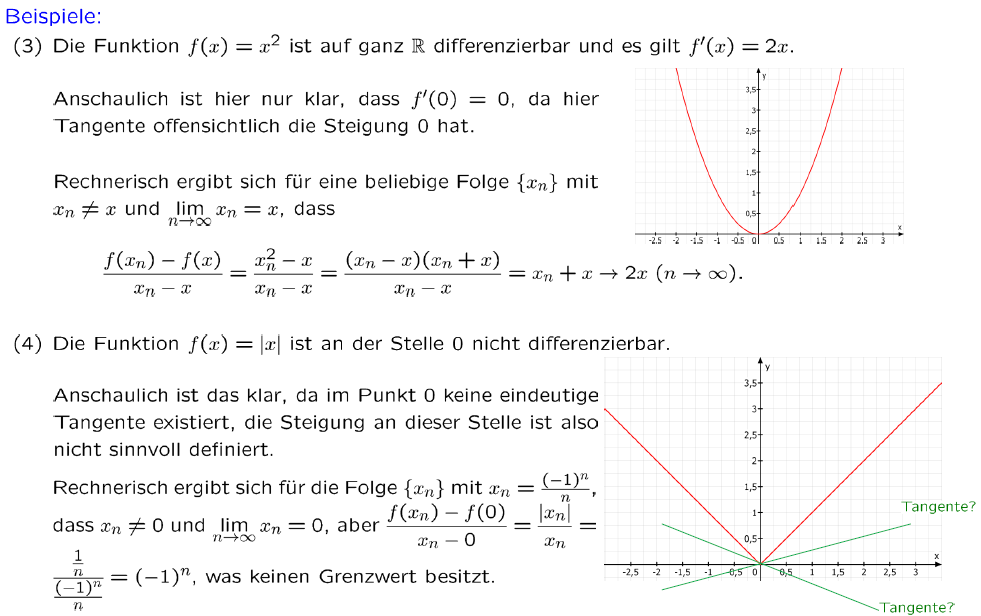
### Differenzierbarkeit

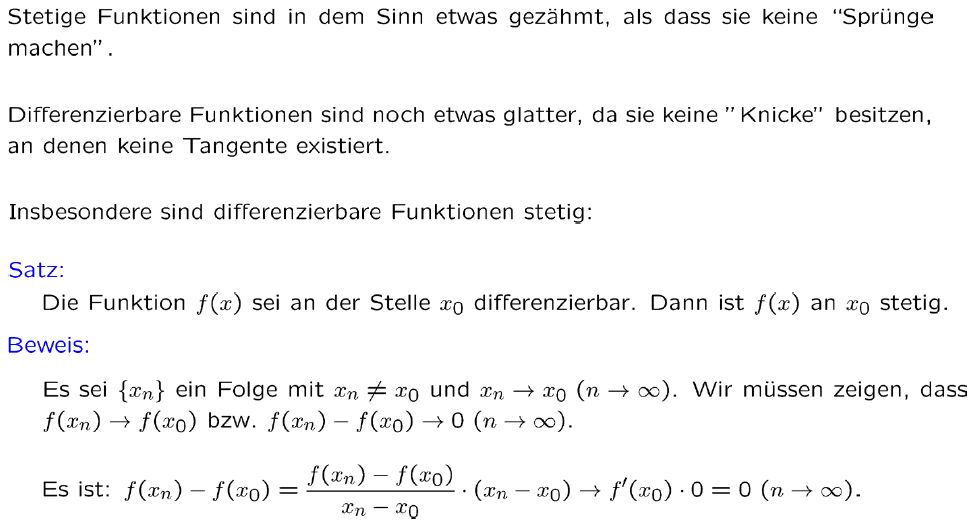


### Beispiele



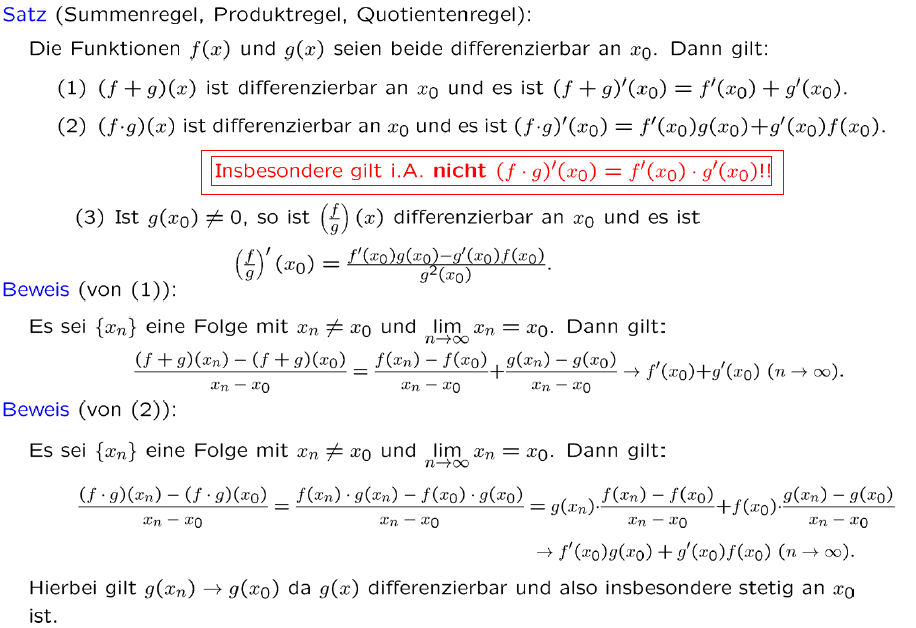
Die Aufgabe 1 ergibt «0» und Aufgabe 2 «a».



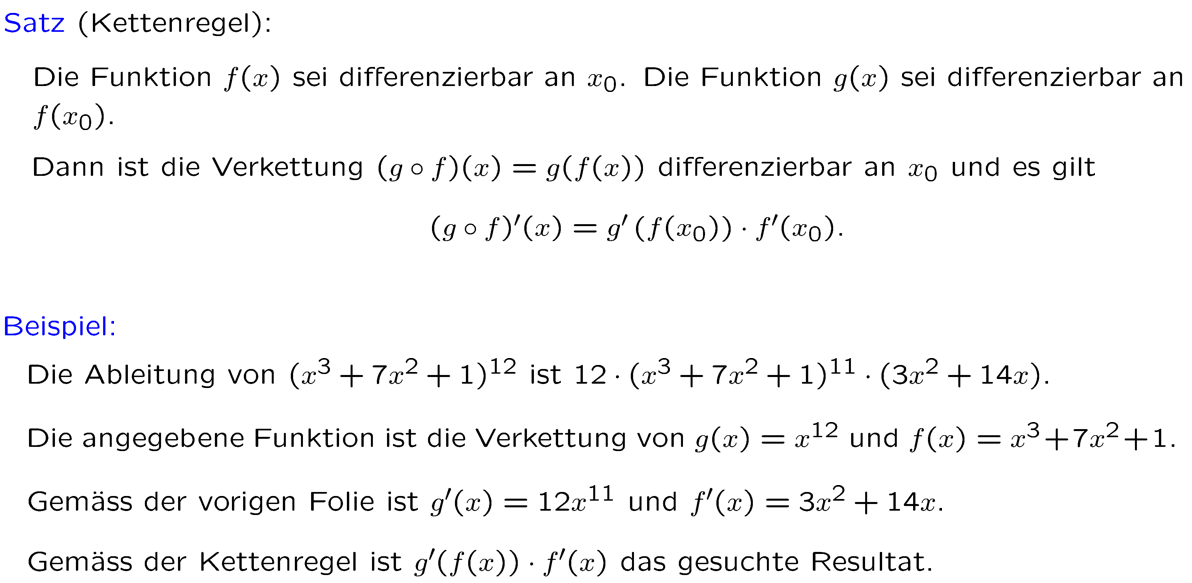


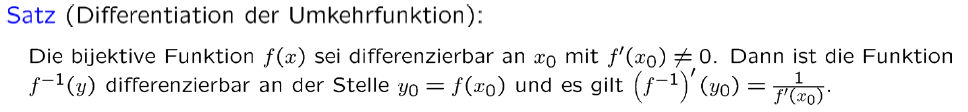
## Differenzierbarkeit

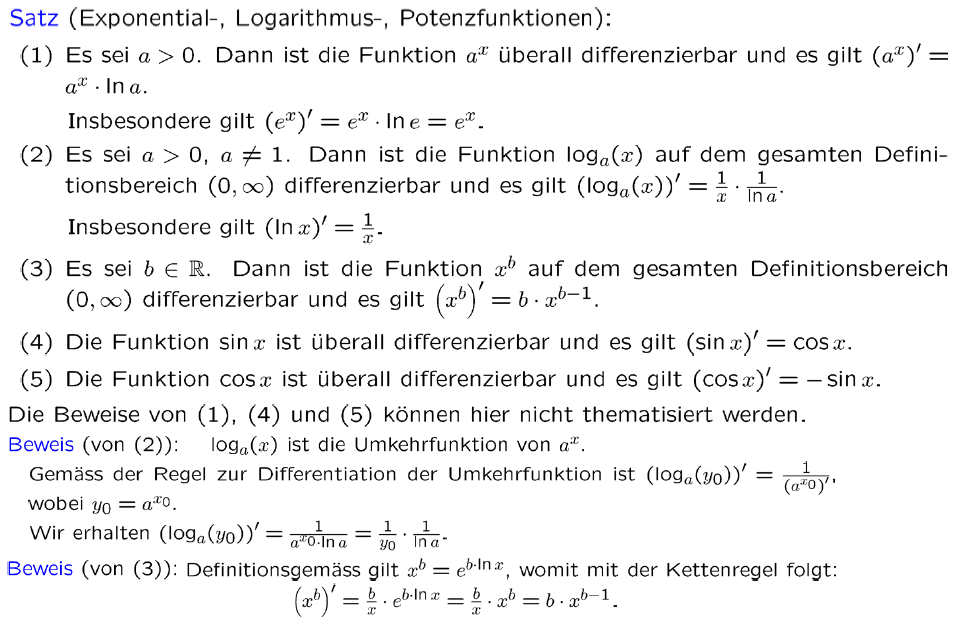
### Ableitungsregeln

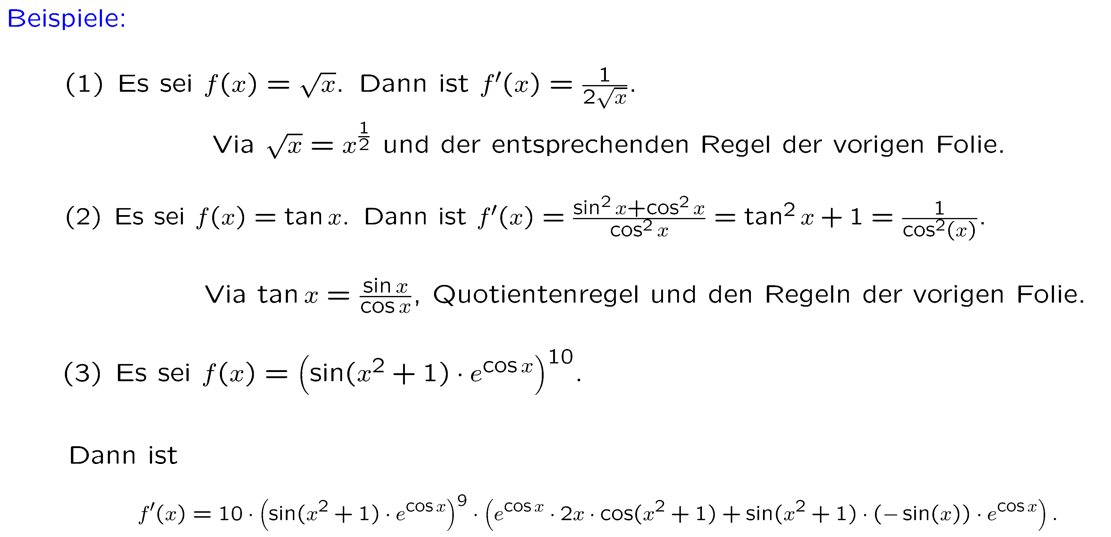


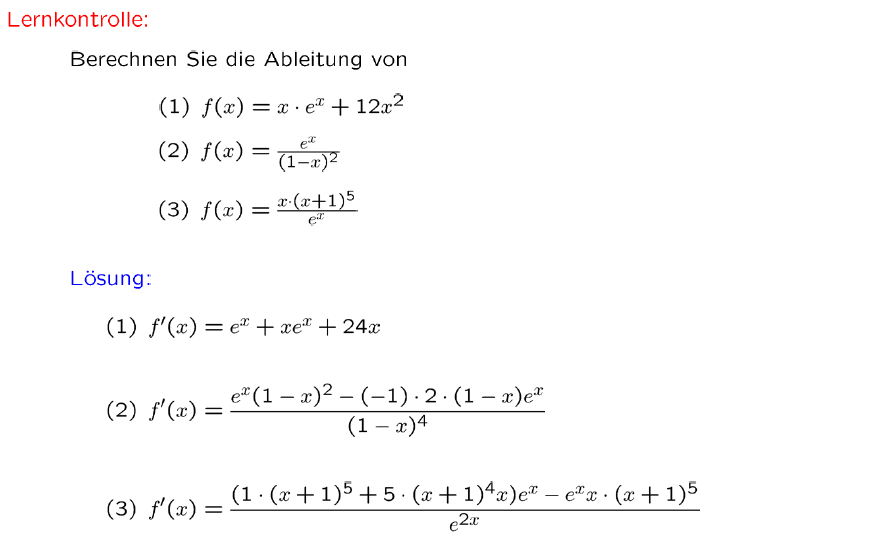




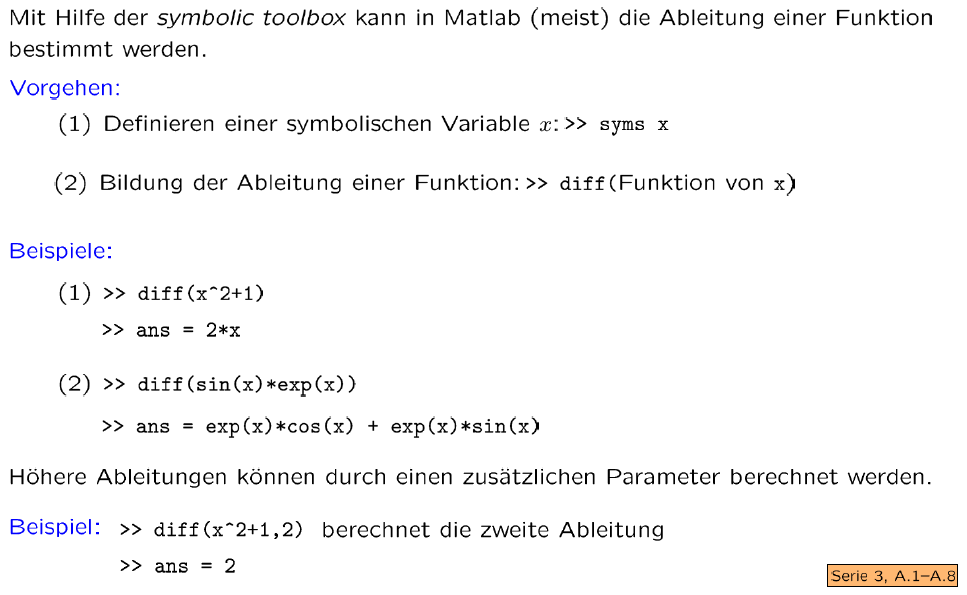








### Anwendung in Matlab



# Woche 6

In Woche 6 fand die 1. Prüfung statt.

# Woche 7