

GeoGebra Smartphone Apps



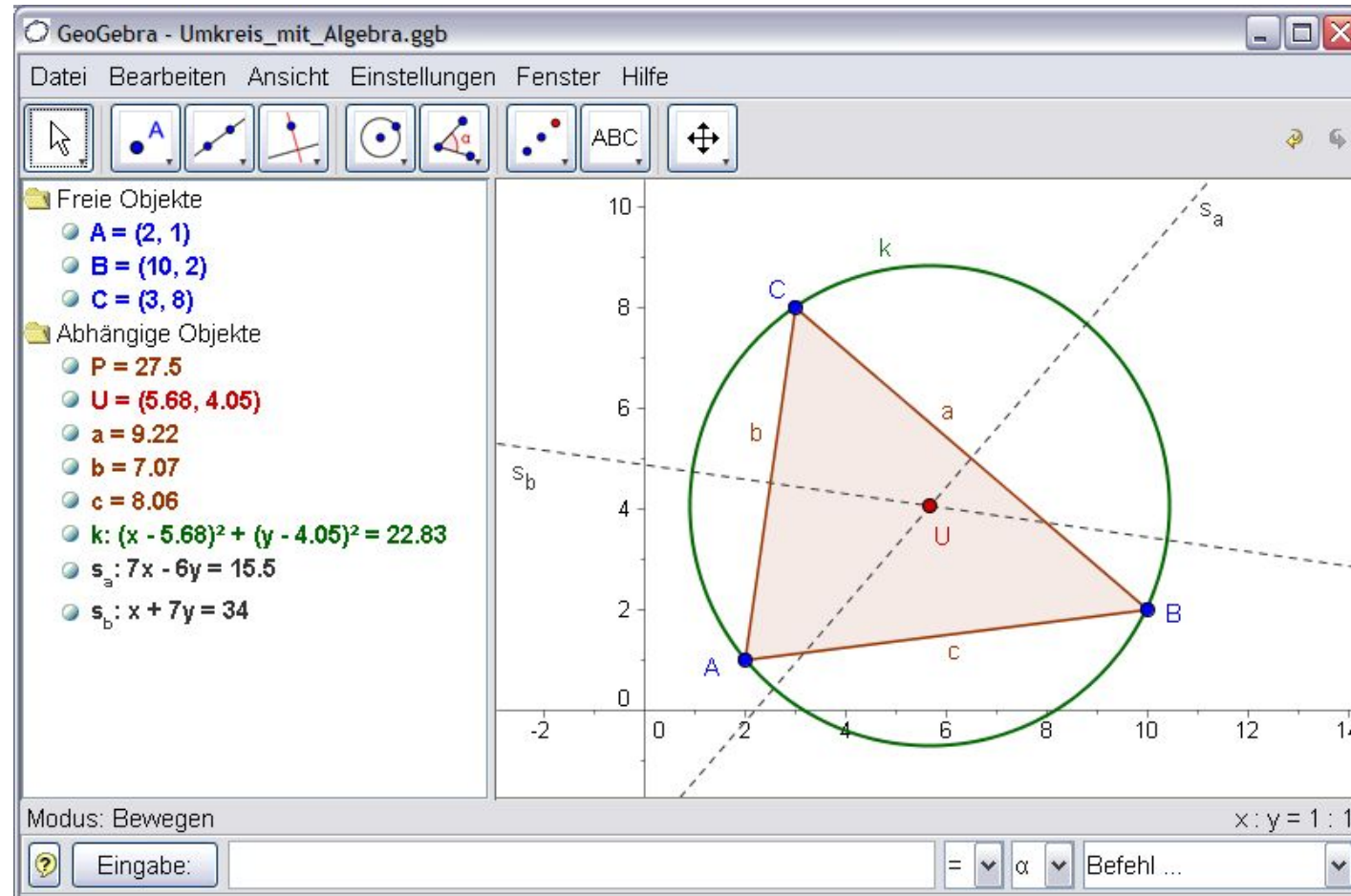
Melanie Tomaschko
Johannes Kepler Universität Linz

Überblick

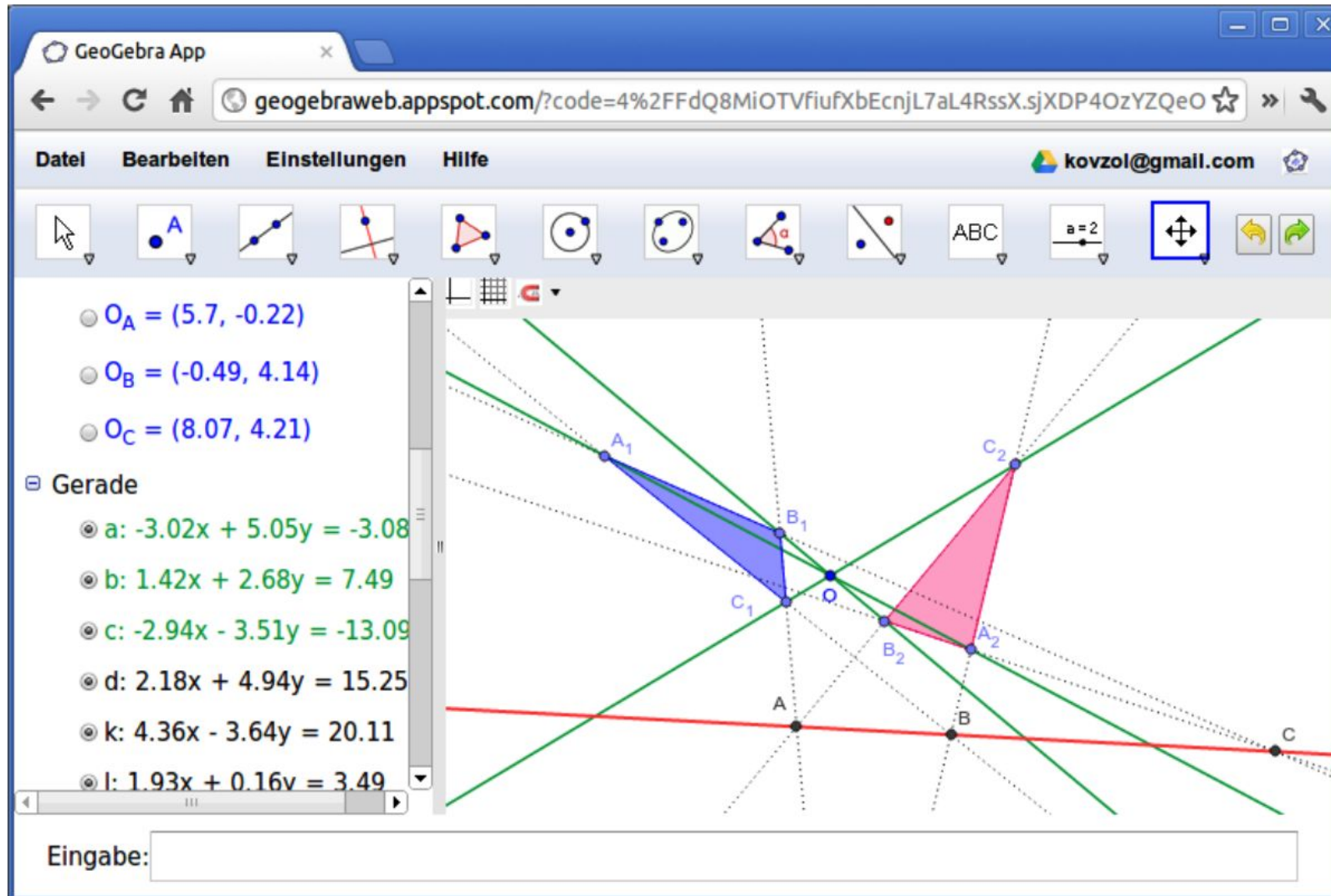
- Einleitung
- GeoGebra Apps
- Benutzerfreundlichkeit
- GeoGebra in Prüfungen
- Ausblick
- Fragen, Diskussion

GeoGebra Desktop

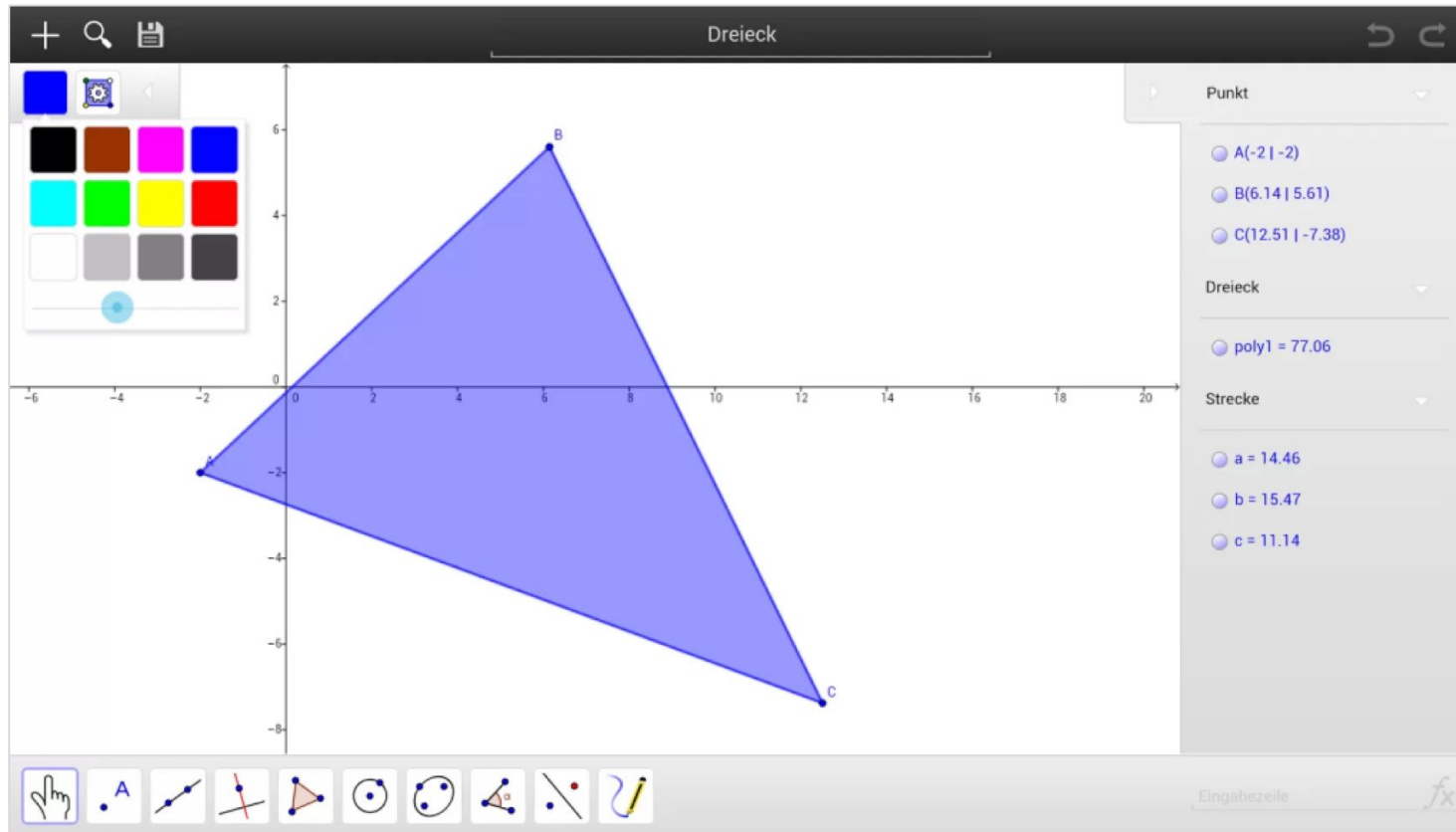
GeoGebra = Geometrie + Algebra



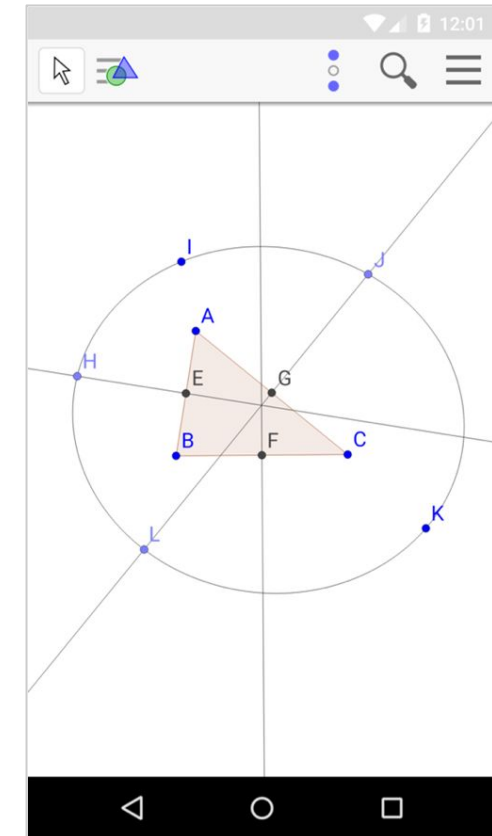
GeoGebra Web



GeoGebra Mobile

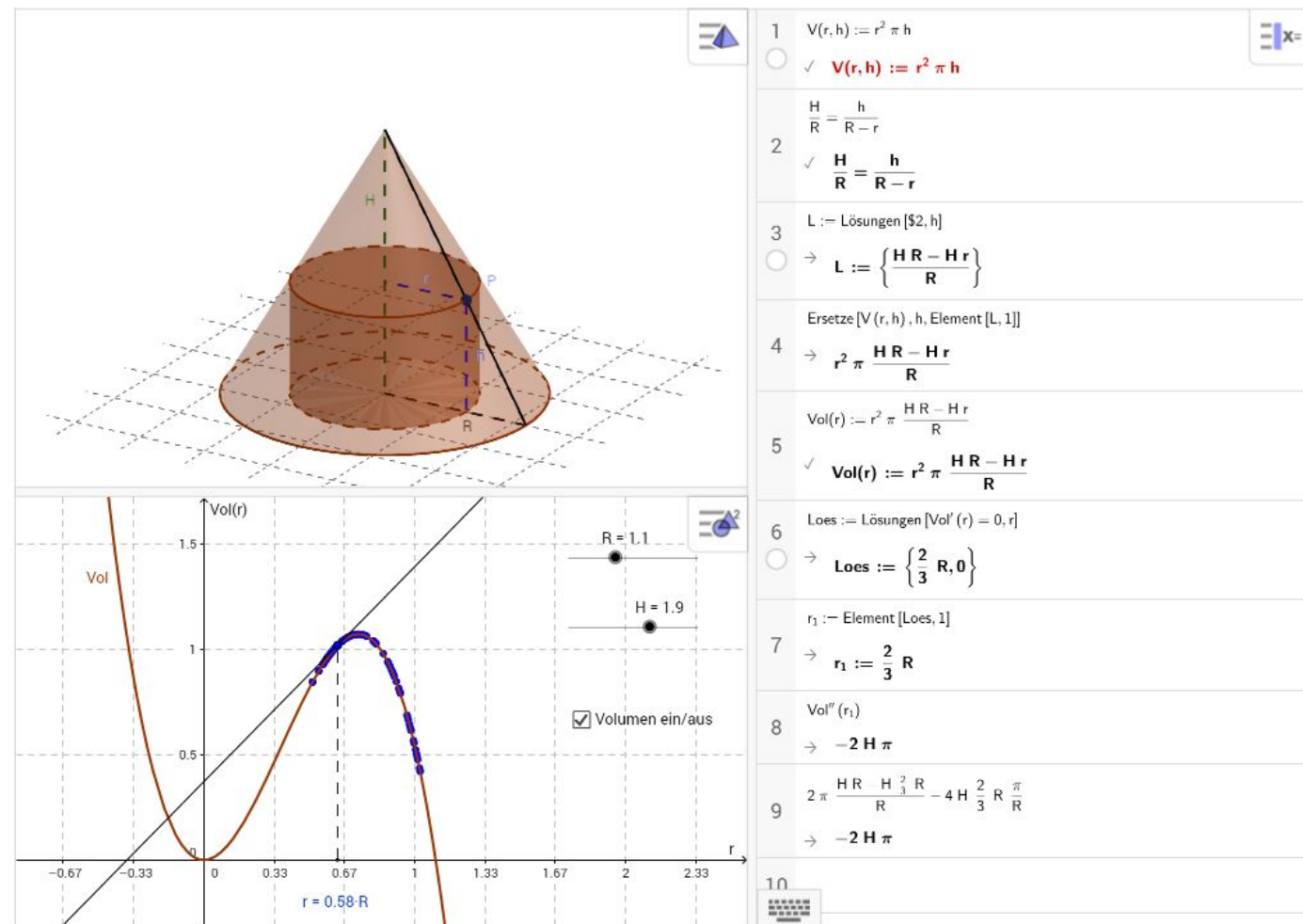
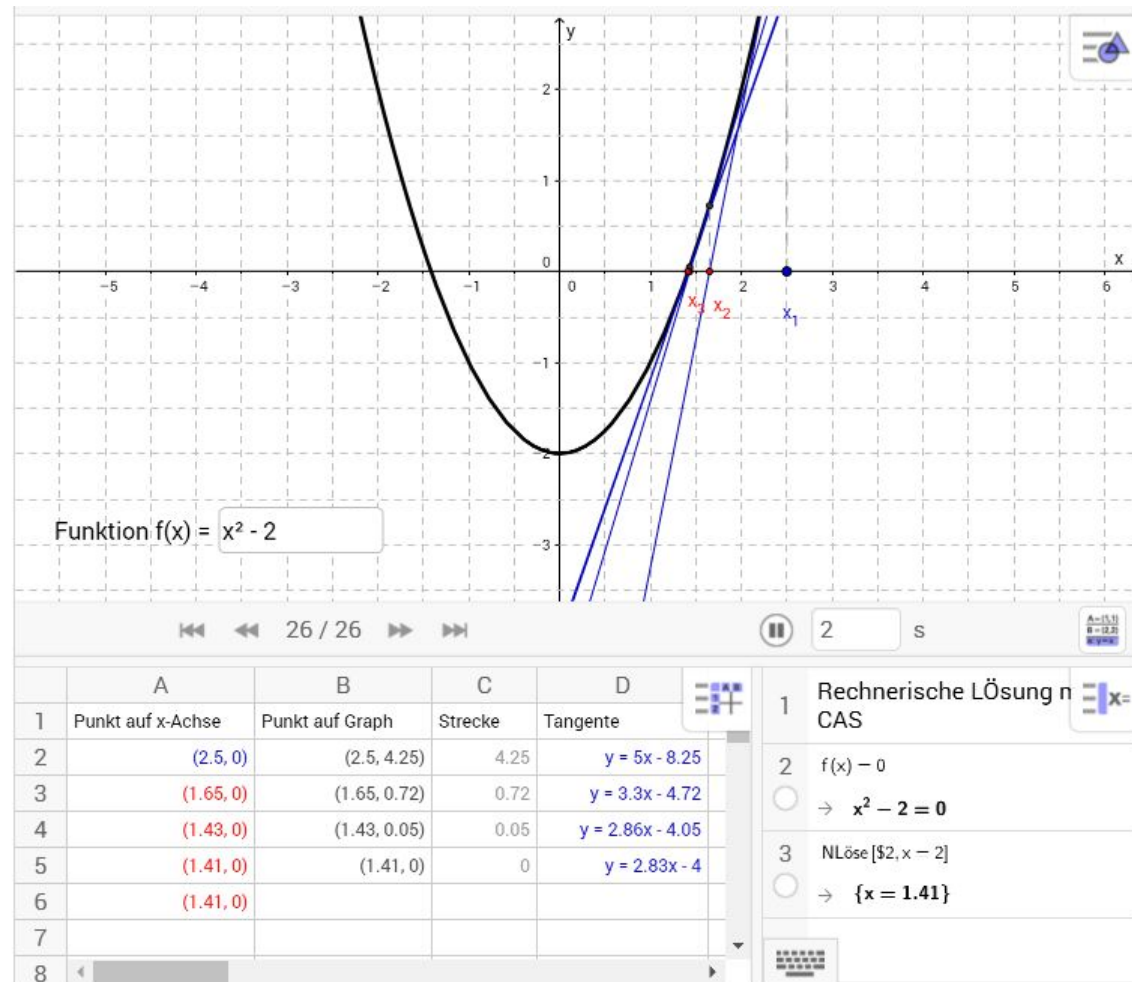


Tablet 2012

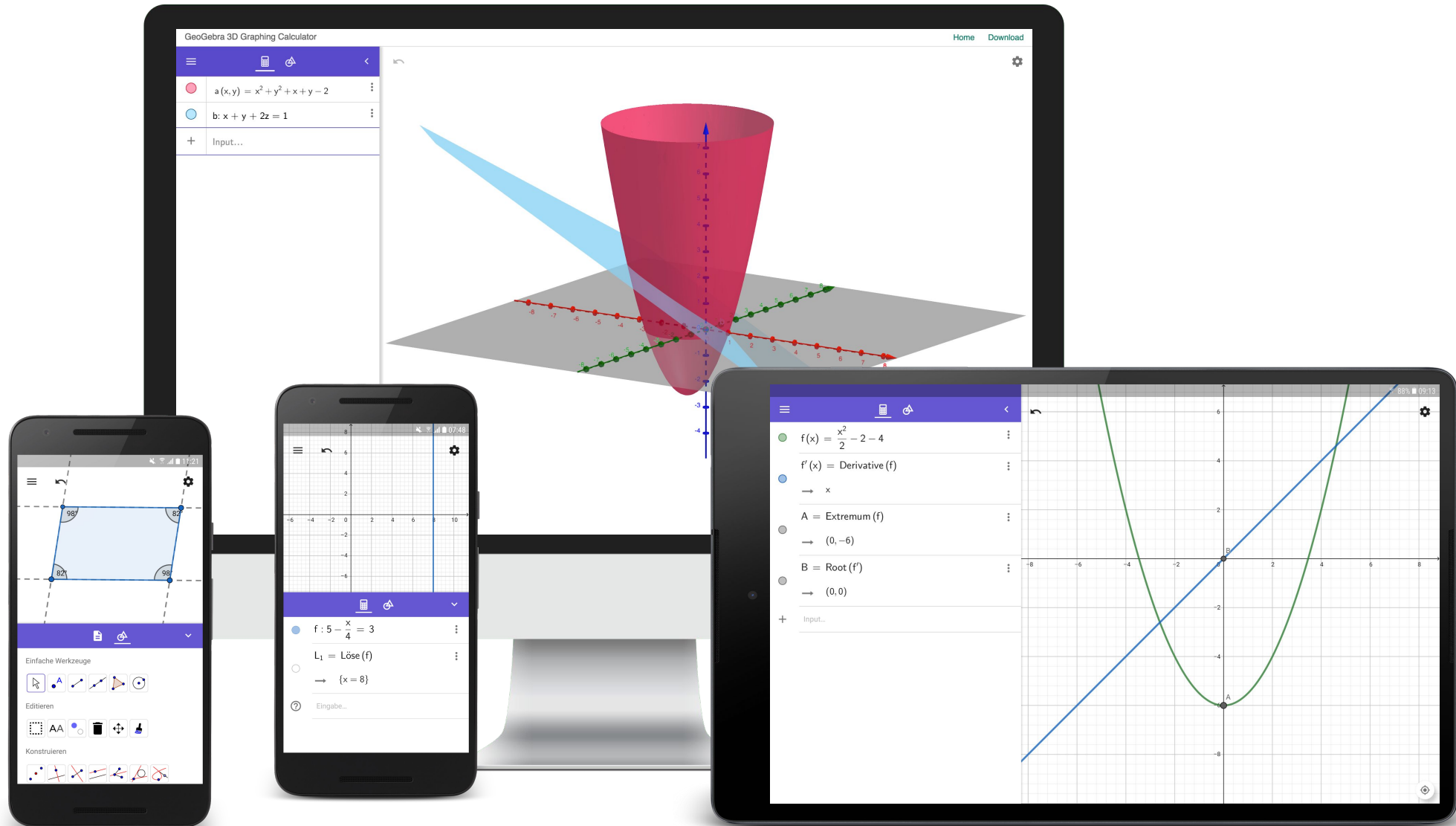


Smartphone 2015

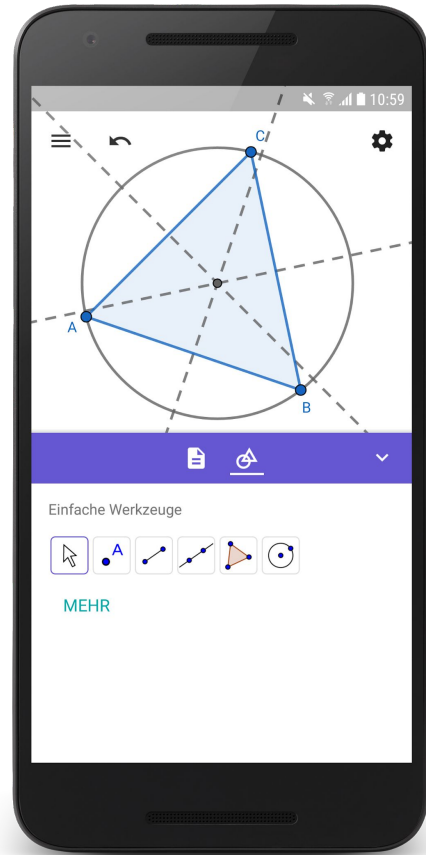
GeoGebra = Geometrie + Algebra + Tabellenkalkulation + 3D + Statistik



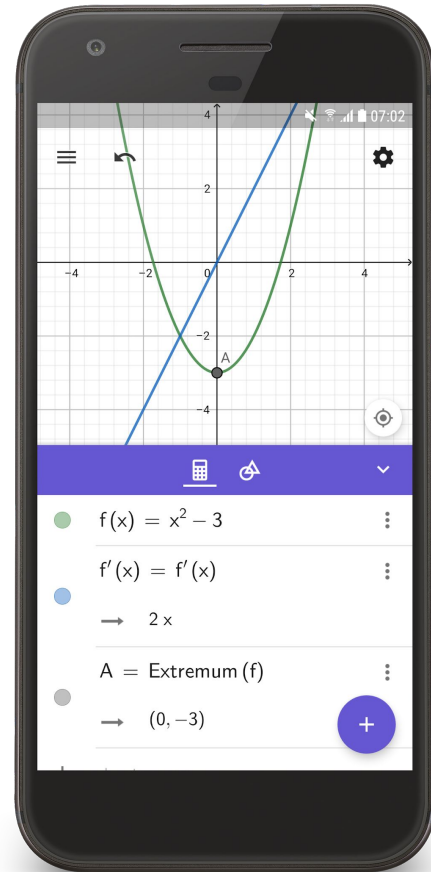
Geometrie, Grafikrechner & 3D Grafikrechner



GeoGebra Geometrie



GeoGebra Grafikrechner



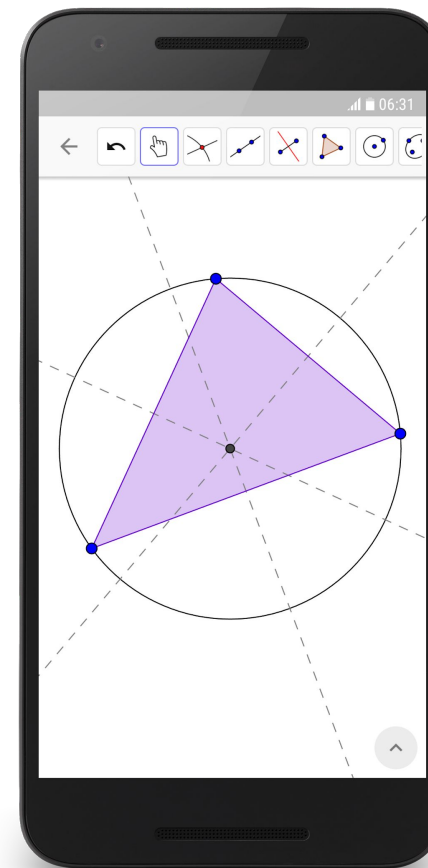
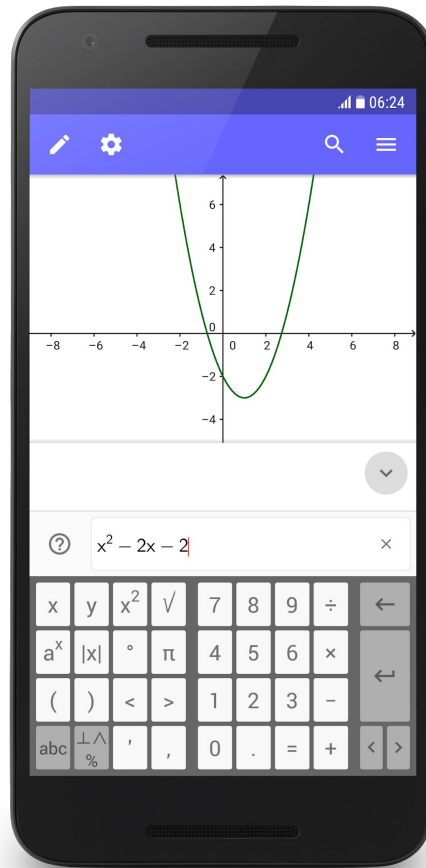
GeoGebra Augmented Reality



Benutzerfreundlichkeit



GeoGebra Grafikrechner (Stand Frühjahr 2017)

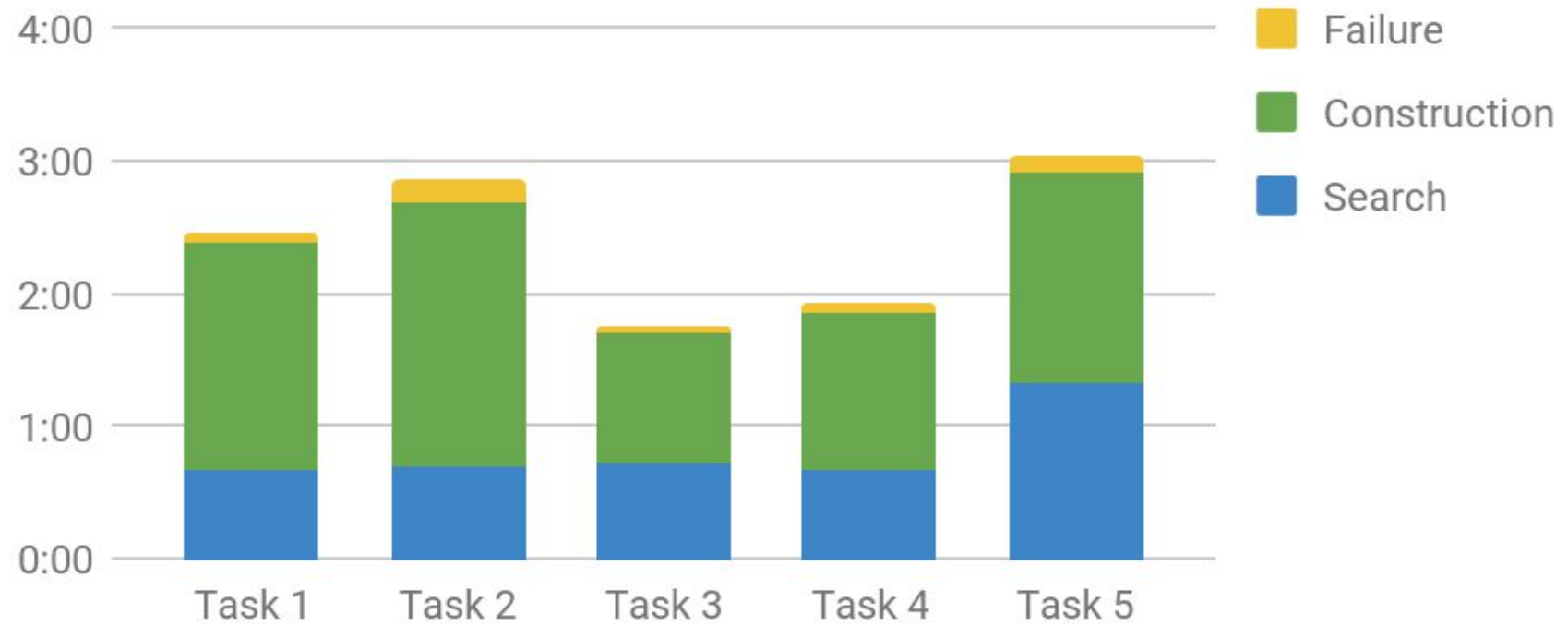


Eye-Tracking

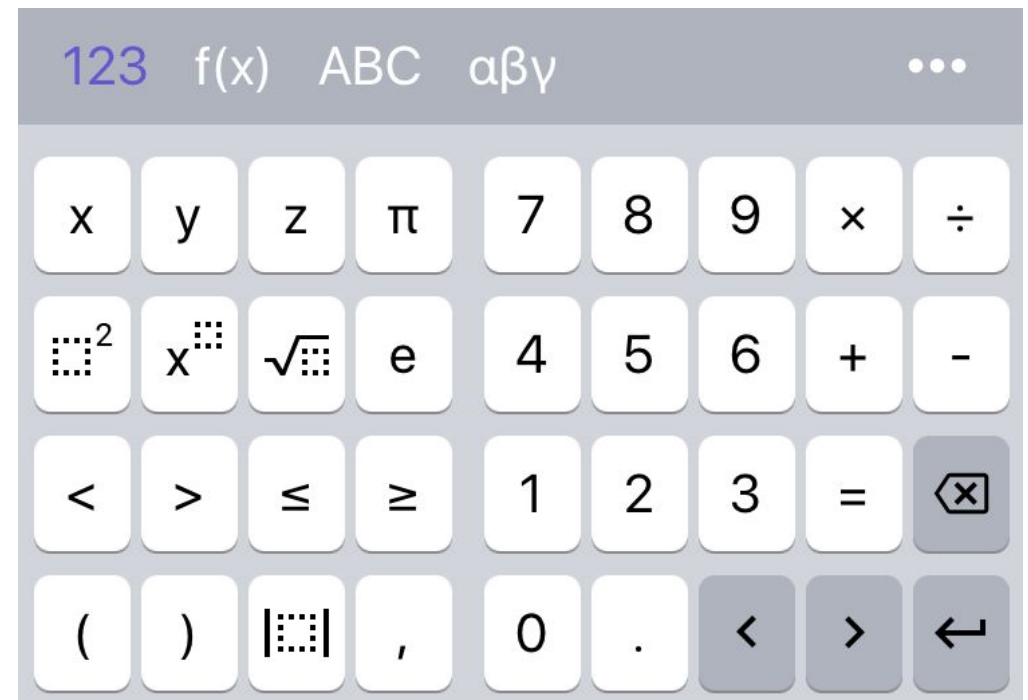


- Tobii Pro X2-60
- Aufgabenbasierte Szenarien
- Think Aloud Method
- Kategorisierung der BenutzerInnen-Interaktionen in
 - Aktive Konstruktion
 - Visuelle Suche
 - Aktionen, die auf Ausbessern/Wiedergutmachen von Fehlkonstruktionen hinweisen

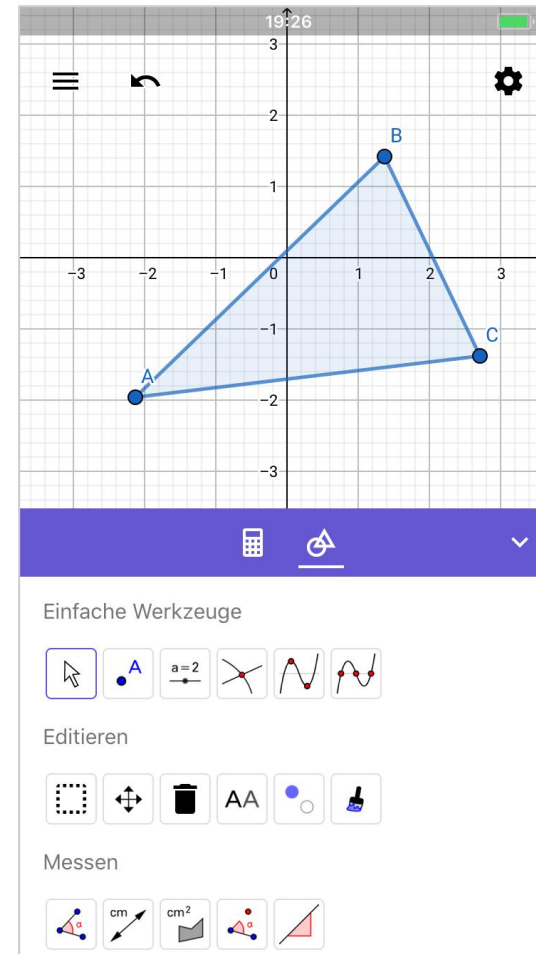
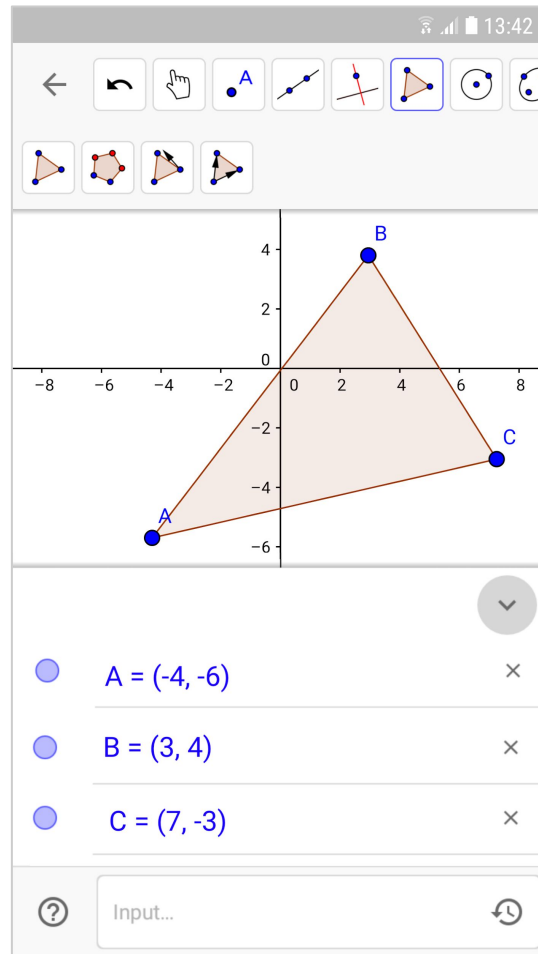
Ergebnisse



Tastatur



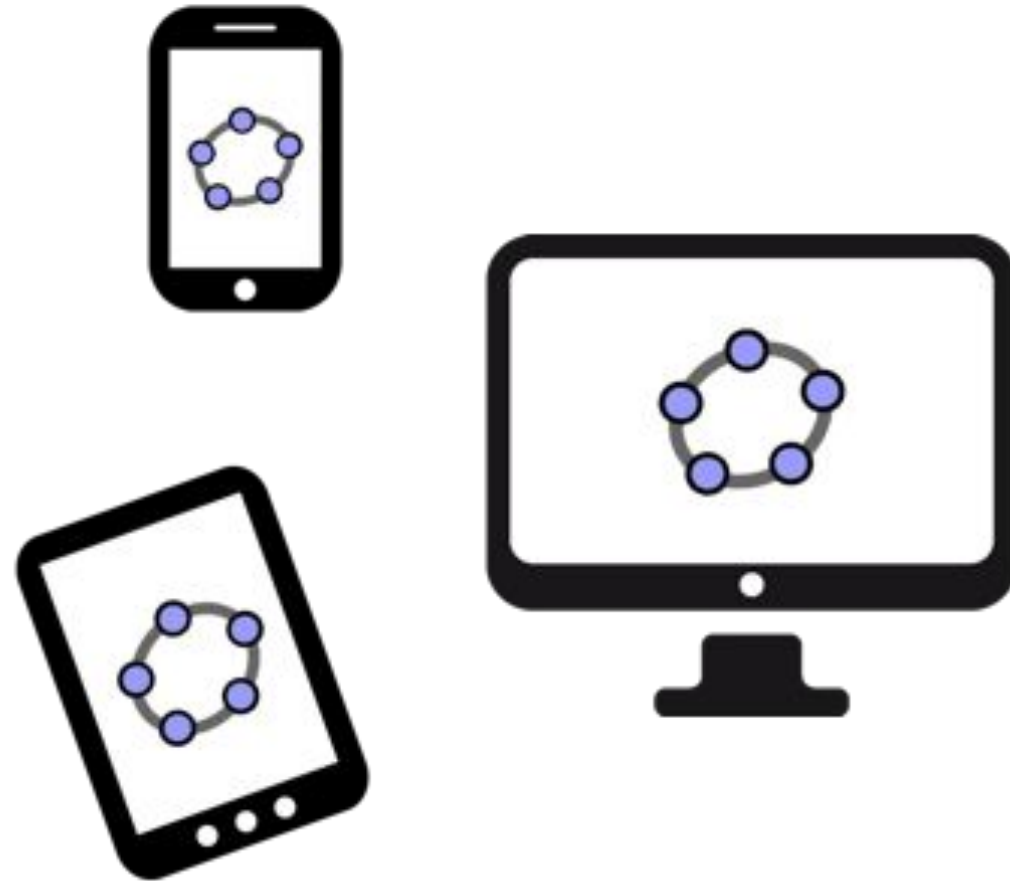
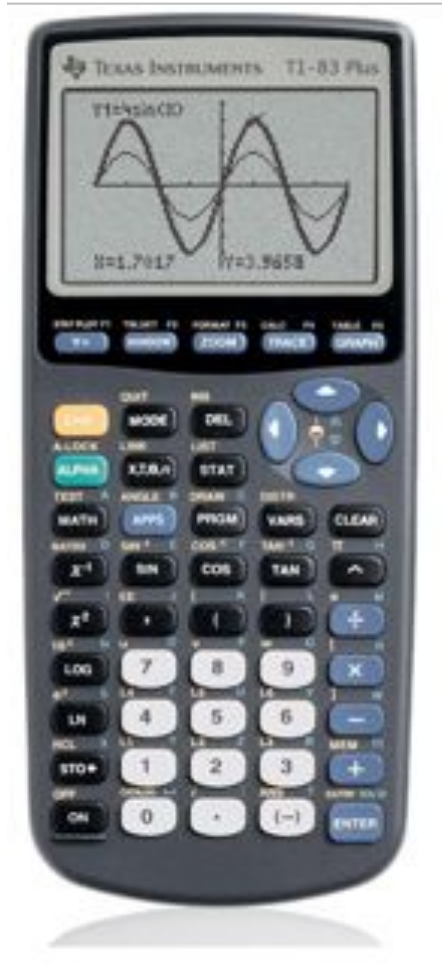
Werkzeuge



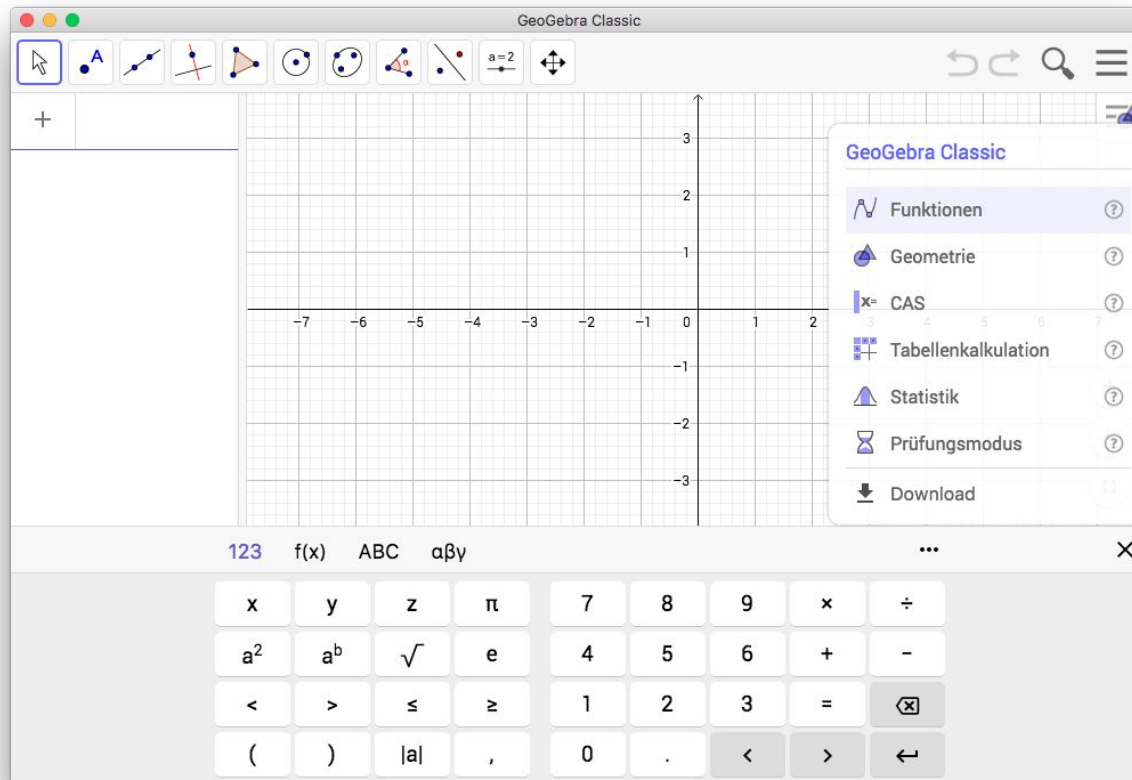
GeoGebra in Prüfungen



Ziel: Bring Your Own Device für Prüfungen mit Papier und Bleistift



Prüfungen am Laptop (Win / Mac) GeoGebra Classic 6 (offline)



- Prüfungsmodus in GeoGebra-App
- SchülerInnen starten selbst
- Roter Balken zeigt Verlassen der Prüfungsumgebung
- Timer verhindert Neustartmöglichkeit
- Computer statt Taschenrechner

GeoGebra Prüfungsumgebung

GeoGebra Prüfung

Entscheiden Sie bitte, welche der folgenden GeoGebra Ansichten während der Prüfung verfügbar sein sollen.

- CAS
- 3D Grafik

Prüfung starten [Abbrechen](#) [Hilfe](#)

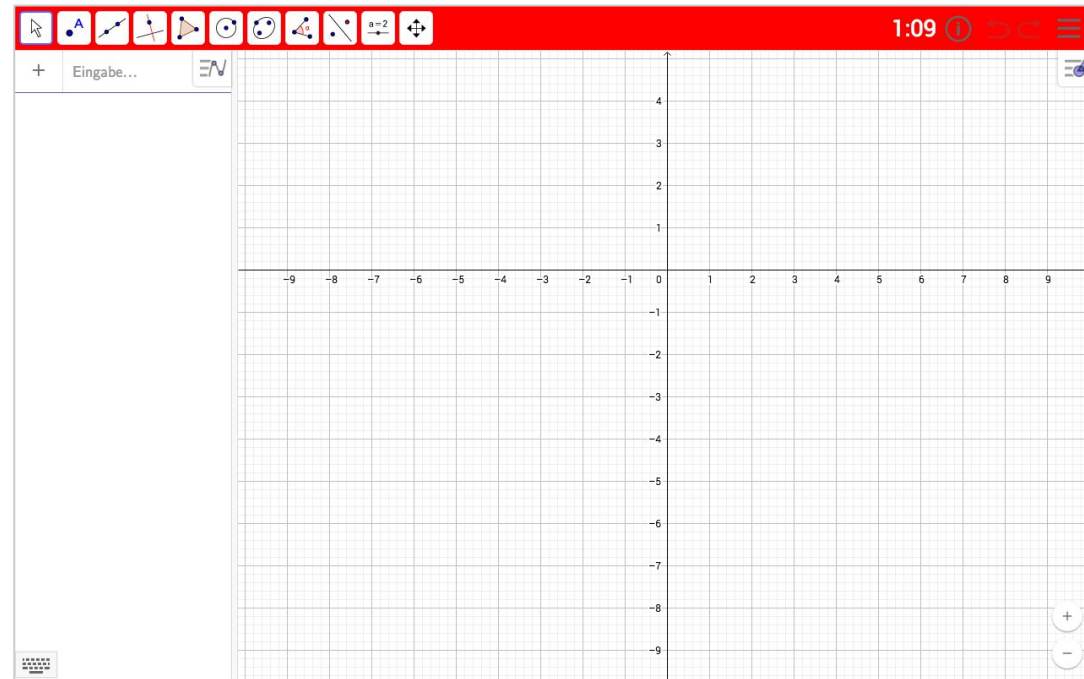
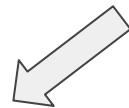
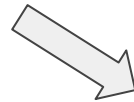
Prüfungsprotokoll 6.0.392.0-offline

Datum der Prüfung: Don, 5 April 2018
Beginn der Prüfung: 14:19:01
Ende der Prüfung: 14:19:36

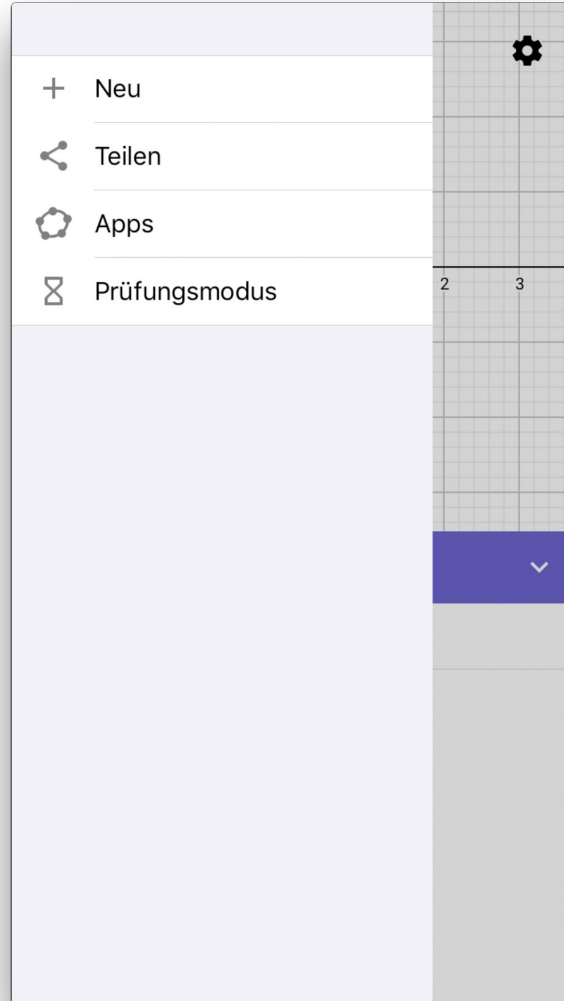


0:00 Start der Prüfung
0:08 Verlassen des Prüfungs-Fensters
0:23 Rückkehr zum Prüfungs-Fenster
0:35 Ende der Prüfung

OK



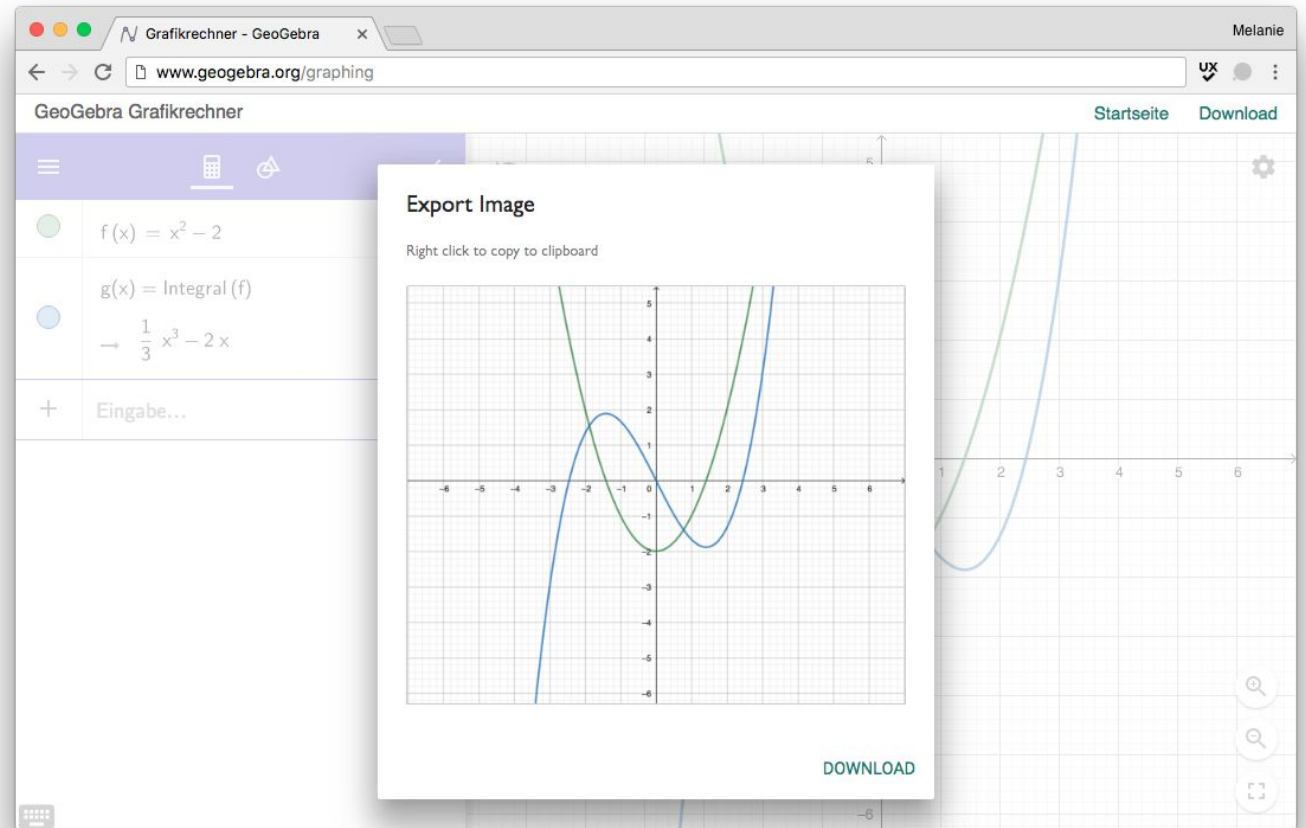
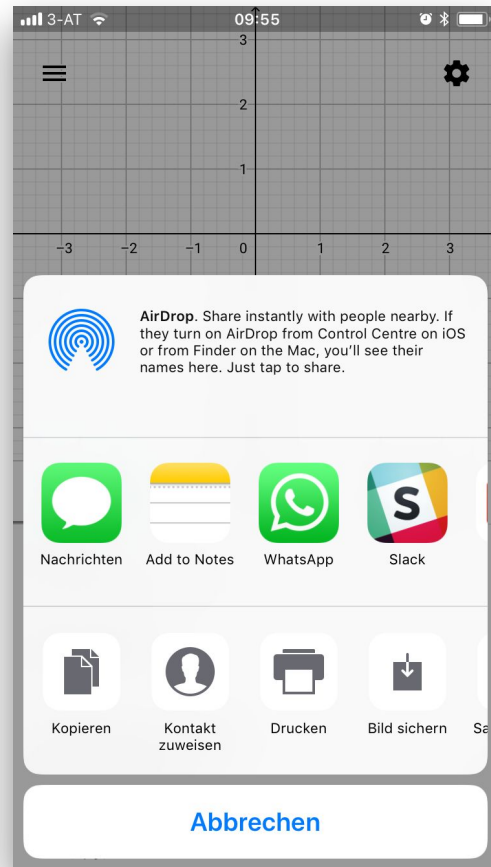
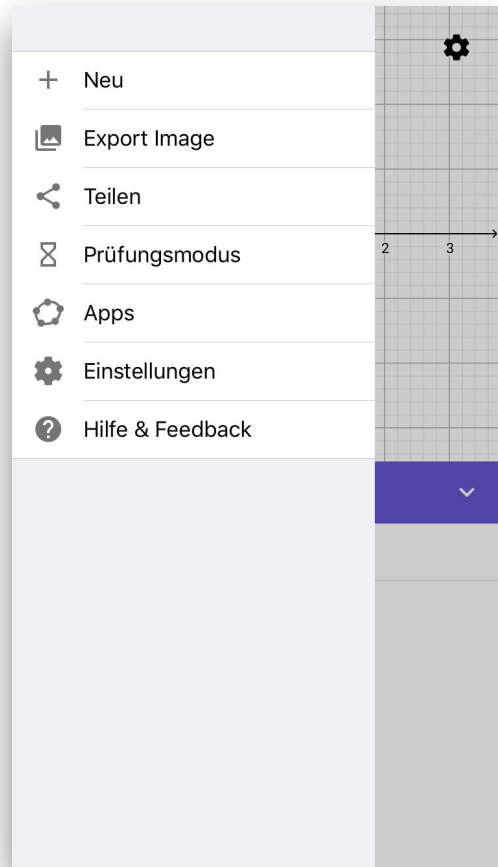
Prüfungen mit Smartphone / Tablet



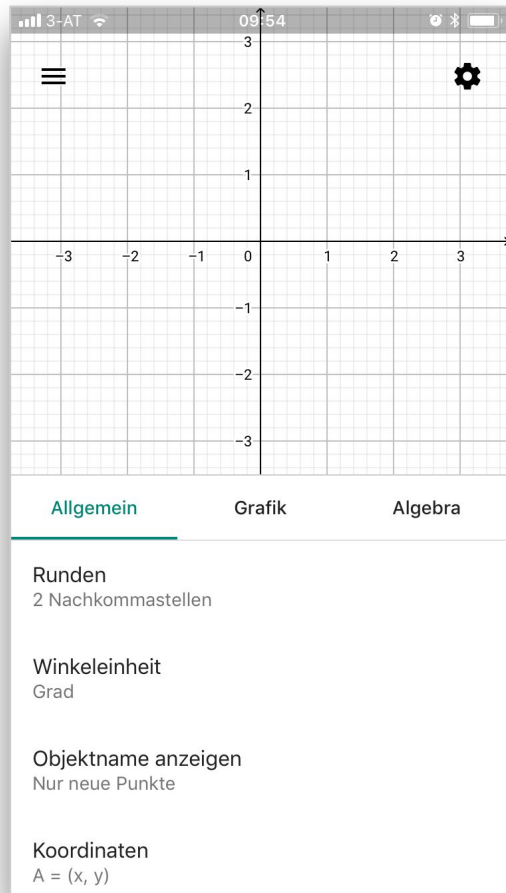
Ausblick



Grafik-Ansicht exportieren



Einstellungen

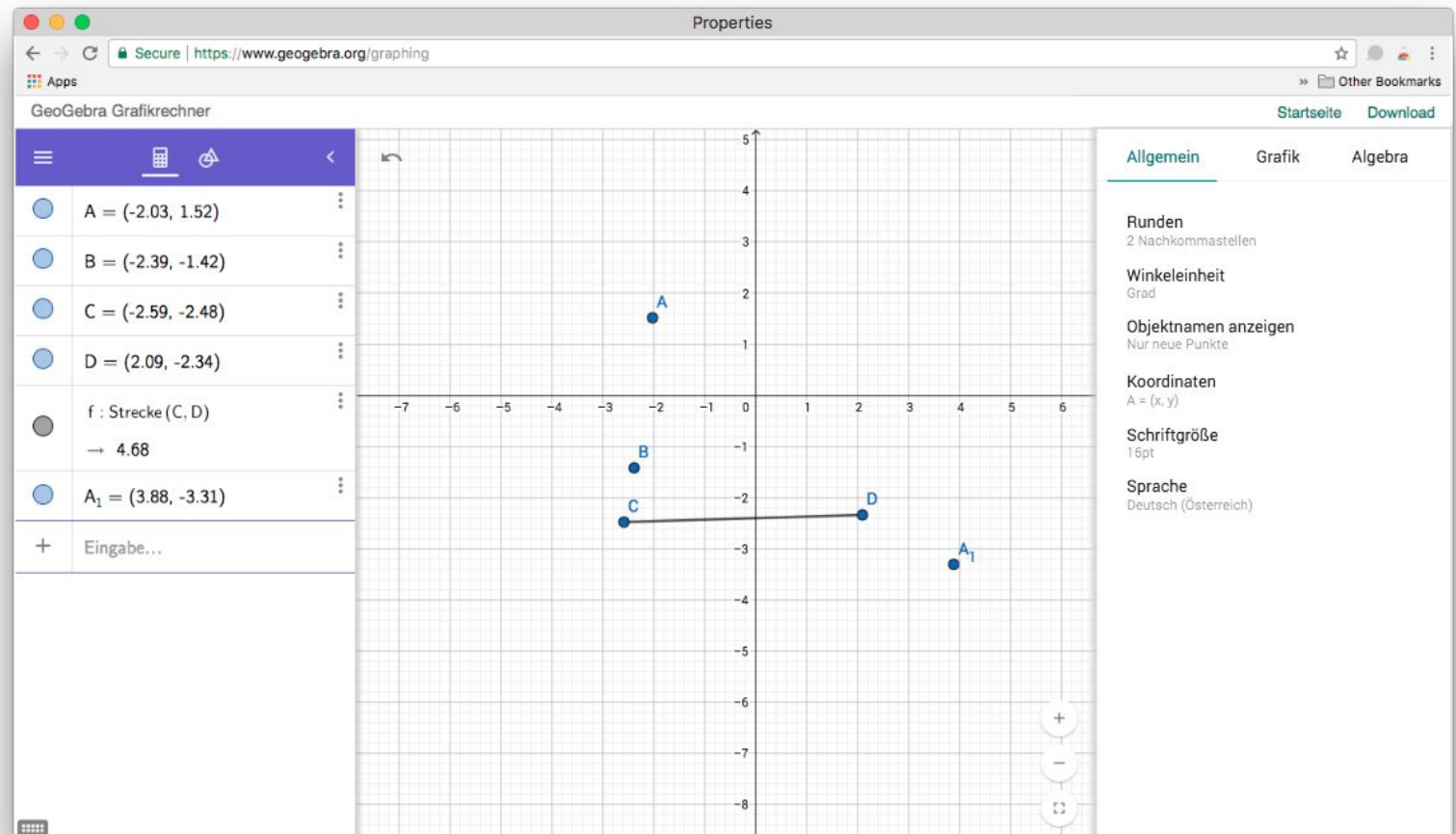


The screenshot shows the mobile app interface with a settings gear icon in the top right corner. The settings menu is open, displaying the following options:

- Allgemein** (selected)
- Grafik
- Algebra

Under the 'Allgemein' tab, the following settings are visible:

- Runden**: 2 Nachkommastellen
- Winkeleinheit**: Grad
- Objektname anzeigen**: Nur neue Punkte
- Koordinaten**: $A = (x, y)$



The screenshot shows the web interface of GeoGebra. The main window displays a coordinate plane with several points and a line segment:

- Point A: $A = (-2.03, 1.52)$
- Point B: $B = (-2.39, -1.42)$
- Point C: $C = (-2.59, -2.48)$
- Point D: $D = (2.09, -2.34)$
- Line segment f: Strecke (C, D) with length $\rightarrow 4.68$
- Point A₁: $A_1 = (3.88, -3.31)$

The 'Properties' sidebar on the right shows the following settings:

- Allgemein** (selected)
- Grafik
- Algebra

Under the 'Allgemein' tab, the following settings are visible:

- Runden**: 2 Nachkommastellen
- Winkeleinheit**: Grad
- Objektname anzeigen**: Nur neue Punkte
- Koordinaten**: $A = (x, y)$
- Schriftgröße**: 16pt
- Sprache**: Deutsch (Österreich)

Materialien-Plattform

The screenshot displays the GeoGebra website interface. At the top, there is a navigation bar with the GeoGebra logo, a search bar labeled "Search Classroom Resources", and a "SIGN IN" button. The main content area features a large heading "Discover Math with GeoGebra" followed by the text "Solve equations, graph functions, create constructions, analyze data, explore 3D math!". Below this, there are two buttons: "START GRAPHING" and "CLASSROOM RESOURCES". To the right, there is an image showing a laptop, a tablet, and a smartphone displaying various mathematical visualizations like 3D shapes and graphs. Below the main heading, there are four categories, each with an icon and a "START" button: "Grafikrechner" (Graphing Calculator), "Geometrie" (Geometry), "3D Grafikrechner" (3D Graphing Calculator), and "Classic". At the bottom, there is a section for "Classroom Resources" with the text "Find thousands of great math activities for all ages." and a "SHOW ALL" button. Below this, there are four small thumbnail images of classroom resource cards, each showing a math problem and a solution.

Soziales Netzwerk

The screenshot shows the 'Recommended' page on the GeoGebra website. The browser address bar displays 'https://www.geogebra.org/people/recommended'. The page features a teal header with the GeoGebra logo, a search bar, and navigation tabs for 'RECOMMENDED', 'FOLLOWING', and 'FOLLOWERS'. A left sidebar contains navigation links: Home, Math Calculators, Materials, Profile, People (highlighted), Downloads, and Settings. The main content area is a grid of 12 user profile cards, each with a circular profile picture and a 'FOLLOW' button. The profiles include: Tim Brzezinski, Steve Phelps, GeoGebra Forum (with a red 'G' logo), Anthony C.M. OR, John Golden, Juan Carlos Po..., Terry Lee Linde..., Geomatech (with a 'GEOMATE' logo), Jan Elemans (with a SpongeBob SquarePants image), Walch Education (with a blue circular logo), A B Cron (with a calculator image), and Roman Chijner. At the bottom left, there is an 'About GeoGebra' section with contact information and social media icons, and a copyright notice: '© 2017 International GeoGebra Institute'.

The screenshot shows the 'News Feed' page on the GeoGebra website. The browser address bar displays 'www.geogebra.org/newsfeed'. The page features a purple header with the GeoGebra logo, a search bar labeled 'Search Classroom Resources', and navigation tabs for 'Home', 'News Feed' (highlighted), 'Resources', 'Profile', 'People', 'Groups', and 'App Downloads'. The main content area displays two posts from Stefan Lizelfelner, dated 12/20/2017. The first post is public and contains the text 'This is the first post for my new book' with a link to 'http://marvl.geogebra.org'. It includes an image of a black Totoro character on a grid and the text 'My new book'. Below the image are 'LIKE' and 'COMMENTS' buttons, and a comment input field with the placeholder 'Add a comment...'. The second post is also public and contains the text 'Stefan Lizelfelner published a new resource:'. It includes an image of a globe with a circular arrow and the text 'My new worksheet'. Below the image are 'LIKE' and 'COMMENTS' buttons. At the bottom left, there is an 'About GeoGebra' section with contact information and social media icons, and a copyright notice: 'Languages - © 2018 GeoGebra'.

**Vielen Dank für Ihre
Aufmerksamkeit**



Melanie.Tomaschko@jku.at