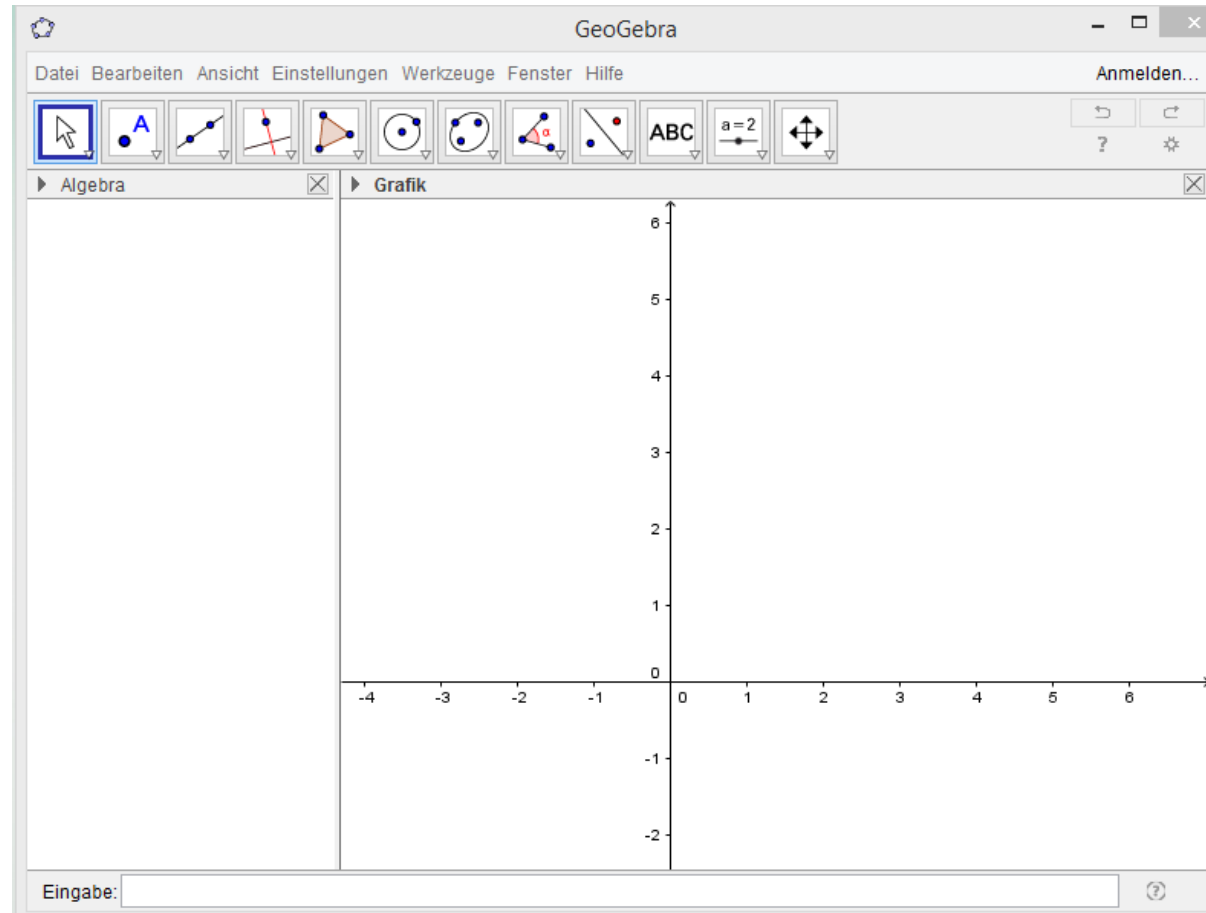


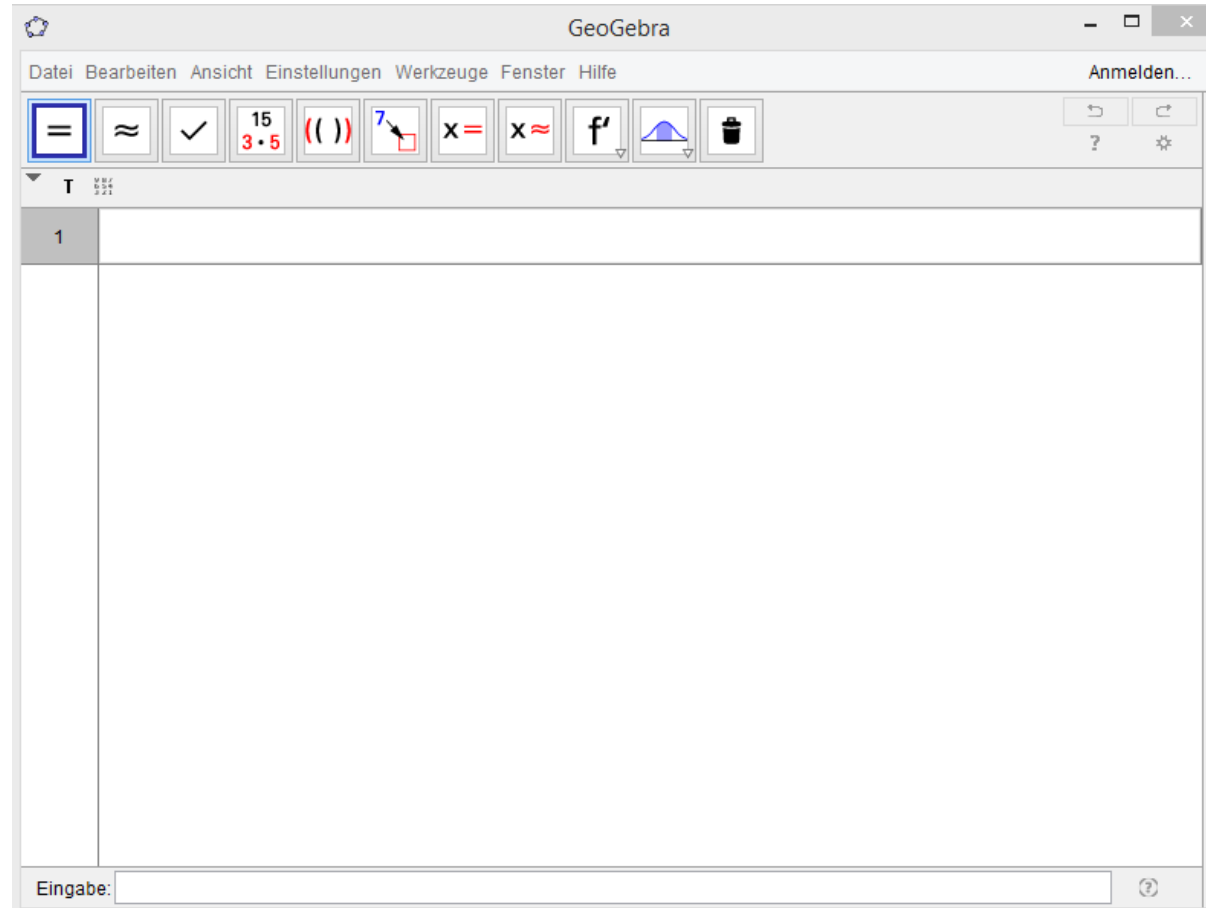
Technologie-Anleitung

Lösen einer beliebigen Gleichung

Starte das Programm Geogebra.



Wähle CAS (unter Ansicht).



Lösen einer beliebigen Gleichung

Um eine beliebige Gleichung in Geogebra zu lösen, gibt es mehrere Möglichkeiten:

- Drücke die Taste .
- Verwende den Befehl Löse[<Gleichung>, <Variable>].
Die Lösung(en) werden ohne den Zusatz „x =“ angezeigt.
- Verwende den Befehl Löse[<Gleichung in x>], wenn die Gleichung nach x gelöst werden soll.
- Drücke die Taste bzw. gib den Befehl NLöse [<Gleichung>] ein, um die numerische Berechnung der Lösung zu ermitteln.

Die Lösungen werden immer in geschwungenen Klammern (Mengenklammern) angezeigt.

Gleichungen lösen

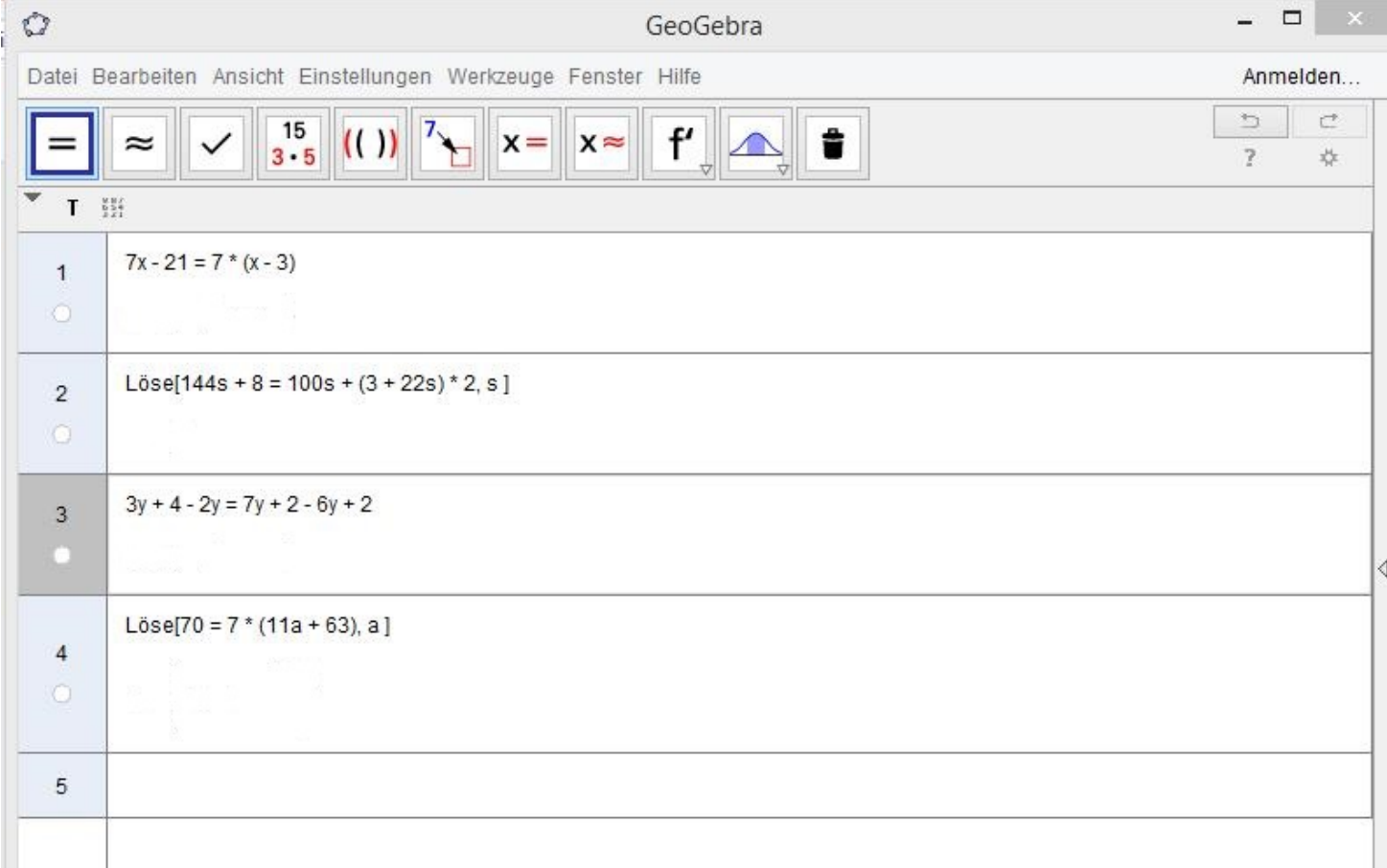
z.B. Lösungswege 5 /199 a – d)

The screenshot shows the GeoGebra application window. The title bar reads "GeoGebra". Below the title bar is a menu bar with "Datei", "Bearbeiten", "Ansicht", "Einstellungen", "Werkzeuge", "Fenster", and "Hilfe". On the right side of the menu bar is "Anmelden...". Below the menu bar is a toolbar with icons for "=", "≈", "✓", "15/3.5", "()", "7", "x=", "x≈", "f'", a graph icon, and a trash icon. Below the toolbar is a list of five equations to be solved, each with a radio button to its left. The equations and their solutions are:

1	Löse $[(-2x + 1) * 2 = 17 - 3 * (4x - 1) + 2x]$ → $\{x = 3\}$
2	Löse $[3 * (h + 1) - 5 * (h - 2) = 2 * (h - 1), h]$ → $\left\{h = \frac{15}{4}\right\}$
3	$5x + 5 = (x - 6) * 2 + 6 - 4x$ Löse: $\left\{x = -\frac{11}{7}\right\}$
4	NLöse $[7k - 18 + 7 * (3k - 5) = 4 * (3k - 1) + 7, k]$ → $\{k = 3.5\}$
5	

Versuche es nun selbst.

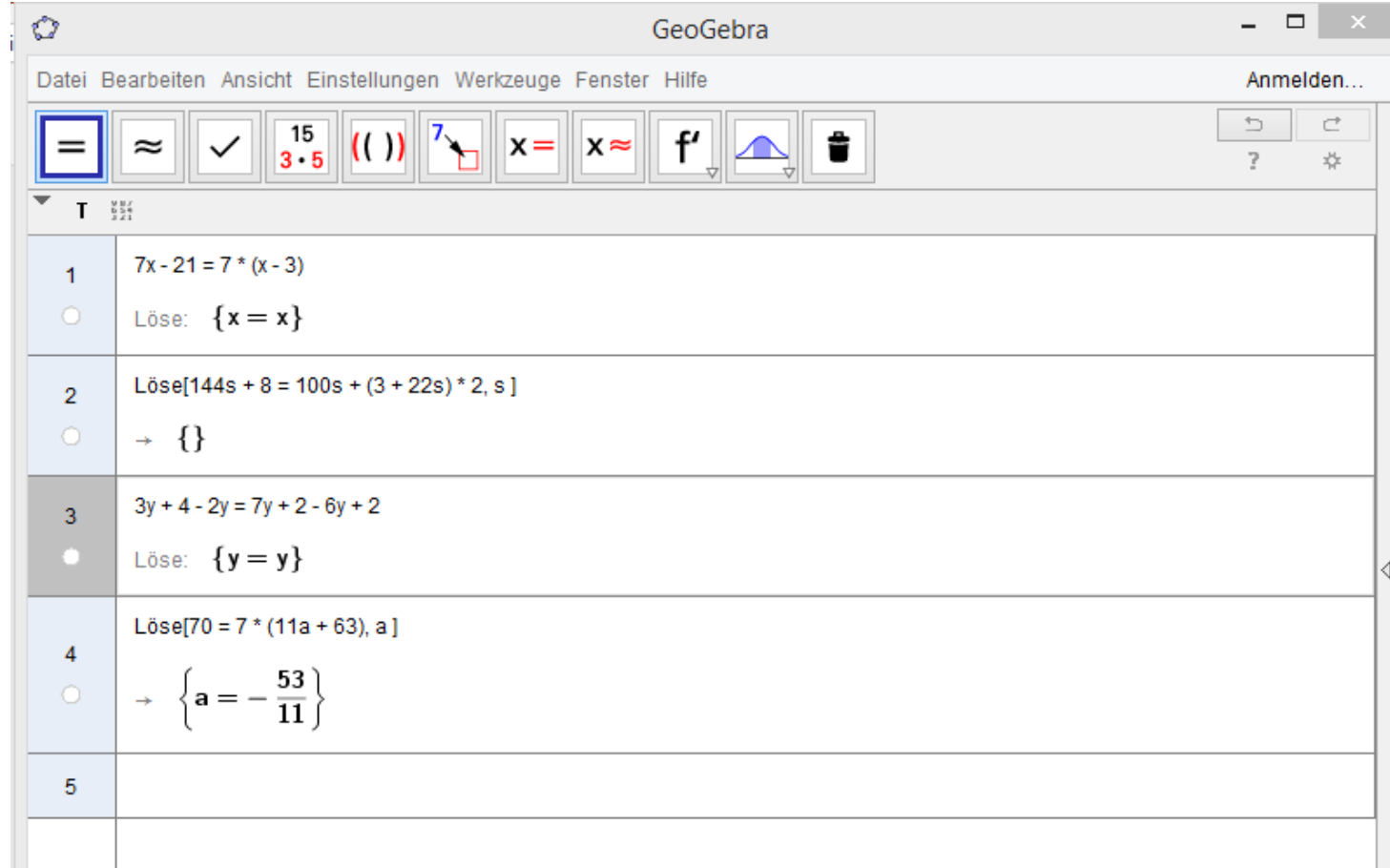
z.B. Lösungswege 5 / 201 a – d)



The screenshot shows the GeoGebra application window. The title bar reads "GeoGebra". The menu bar includes "Datei", "Bearbeiten", "Ansicht", "Einstellungen", "Werkzeuge", "Fenster", and "Hilfe". The toolbar contains various icons for mathematical operations: an equals sign, an approximation symbol, a checkmark, a fraction $\frac{15}{3.5}$, parentheses $(())$, a square root symbol, $x =$, $x \approx$, a derivative symbol f' , a graphing icon, and a trash can. On the right side of the toolbar, there are buttons for undo, redo, help, and settings. Below the toolbar is a toolbar with a dropdown menu showing "T" and a list of five items. The first item is selected and highlighted in grey.

Item	Equation
1	$7x - 21 = 7 * (x - 3)$
2	Löse[$144s + 8 = 100s + (3 + 22s) * 2, s$]
3	$3y + 4 - 2y = 7y + 2 - 6y + 2$
4	Löse[$70 = 7 * (11a + 63), a$]
5	

Lösung:



The screenshot shows the GeoGebra application window. The title bar reads "GeoGebra". The menu bar includes "Datei", "Bearbeiten", "Ansicht", "Einstellungen", "Werkzeuge", "Fenster", and "Hilfe". On the right of the menu bar is "Anmelden...". Below the menu bar is a toolbar with icons for "=", "≈", "✓", "15/3.5", "()", "7", "x=", "x≈", "f'", a graph icon, and a trash icon. Below the toolbar is a list of algebraic problems and solutions:

T	
1	$7x - 21 = 7 * (x - 3)$ Löse: $\{x = x\}$
2	Löse[$144s + 8 = 100s + (3 + 22s) * 2, s$] → $\{\}$
3	$3y + 4 - 2y = 7y + 2 - 6y + 2$ Löse: $\{y = y\}$
4	Löse[$70 = 7 * (11a + 63), a$] → $\left\{a = -\frac{53}{11}\right\}$
5	

Ich hoffe, die Anleitung war
hilfreich!