

# Lineare Gleichungssysteme - Lösungen

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### 1 Lineare Gleichungen mit einer Variablen

Für die Gleichung ... ist die Lösungsmenge ....

a)  $7x + 8 = 71 \Leftrightarrow x = 9$

b)  $1x + 4 = 5 \Leftrightarrow x = 1$

c)  $8x + 2 = 18 \Leftrightarrow x = 2$

d)  $8x + 9 = 25 \Leftrightarrow x = 2$

e)  $2x + 9 = 17 \Leftrightarrow x = 4$

f)  $5x + 6 = 21 \Leftrightarrow x = 3$

g)  $2x + 4 = 16 \Leftrightarrow x = 6$

h)  $2x + 4 = 18 \Leftrightarrow x = 7$

i)  $6x + 4 = 22 \Leftrightarrow x = 3$

j)  $5x + 7 = 37 \Leftrightarrow x = 6$

k)  $6x + 8 = 32 \Leftrightarrow x = 4$

l)  $6x + 4 = 10 \Leftrightarrow x = 1$

m)  $1x + 7 = 12 \Leftrightarrow x = 5$

n)  $9x + 4 = 49 \Leftrightarrow x = 5$

o)  $3x + 3 = 21 \Leftrightarrow x = 6$

## 2 Lineare Gleichungssysteme mit zwei Variablen

Für die Gleichung ... ist die Lösungsmenge ....

a)

$$5x + 5y + 2 = 37$$

$$\begin{aligned} 5x + 5y + 2 &= 37 \\ \Leftrightarrow x = 1, y &= 6, \end{aligned}$$

b)

$$8x + 7y + 2 = 93$$

$$\begin{aligned} 1x + 7y + 7 &= 49 \\ \Leftrightarrow x = 7, y &= 5, \end{aligned}$$

c)

$$4x + 6y + 1 = 79$$

$$\begin{aligned} 7x + 6y + 5 &= 101 \\ \Leftrightarrow x = 6, y &= 9, \end{aligned}$$

d)

$$5x + 7y + 8 = 62$$

$$\begin{aligned} 4x + 6y + 5 &= 49 \\ \Leftrightarrow x = 8, y &= 2, \end{aligned}$$

e)

$$7x+5y+7=58$$

$$7x+7y+8=71$$

$$\Leftrightarrow x = 3, y = 6,$$

f)

$$7x+1y+5=67$$

$$1x+4y+1=33$$

$$\Leftrightarrow x = 8, y = 6,$$

g)

$$3x+8y+9=79$$

$$2x+3y+4=32$$

$$\Leftrightarrow x = 2, y = 8,$$

h)

$$8x+4y+8=64$$

$$5x+7y+1=63$$

$$\Leftrightarrow x = 4, y = 6,$$

i)

$$2x+8y+5=43$$

$$4x+7y+2=42$$

$$\Leftrightarrow x = 3, y = 4,$$

j)

$$3x+5y+5=33$$

$$9x+8y+7=56$$

$$\Leftrightarrow x = 1, y = 5,$$

k)

$$6x+7y+3=93$$

$$2x+3y+3=37$$

$$\Leftrightarrow x = 8, y = 6,$$

l)

$$3x+8y+2=90$$

$$7x+2y+1=73$$

$$\Leftrightarrow x = 8, y = 8,$$

m)

$$2x+4y+4=10$$

$$6x+6y+1=13$$

$$\Leftrightarrow x = 1, y = 1,$$

n)

$$2x+7y+2=69$$

$$4x+6y+9=71$$

$$\Leftrightarrow x = 2, y = 9,$$

o)

$$7x+9y+1=120$$

$$5x+3y+9=70$$

$$\Leftrightarrow x = 8, y = 7,$$

### 3 Lineare Gleichungssysteme mit drei Variablen

Für die Gleichung ... ist die Lösungsmenge ....

a)

$$2x+2y+6z+1=67$$

$$4x+7y+1z+2=69$$

$$4x+4y+5z+8=91$$

$$\Leftrightarrow x = 8, y = 4, z = 7,$$

b)

$$4x+8y+6z+1=63$$

$$\begin{aligned}
1x+4y+1z+2 &= 17 \\
7x+2y+4z+4 &= 68 \\
\Leftrightarrow x &= 6, y = 1, z = 5,
\end{aligned}$$

c)

$$7x+3y+2z+3=92$$

$$\begin{aligned}
4x+9y+9z+9 &= 149 \\
9x+9y+6z+8 &= 179 \\
\Leftrightarrow x &= 8, y = 9, z = 3,
\end{aligned}$$

d)

$$6x+5y+8z+3=123$$

$$\begin{aligned}
6x+6y+4z+6 &= 100 \\
7x+3y+8z+2 &= 127 \\
\Leftrightarrow x &= 9, y = 2, z = 7,
\end{aligned}$$

e)

$$8x+7y+1z+3=55$$

$$\begin{aligned}
8x+1y+9z+7 &= 93 \\
8x+8y+2z+9 &= 67 \\
\Leftrightarrow x &= 5, y = 1, z = 5,
\end{aligned}$$

f)

$$4x+3y+4z+4=79$$

$$\begin{aligned}
1x+3y+7z+2 &= 77 \\
7x+1y+2z+2 &= 84 \\
\Leftrightarrow x &= 9, y = 1, z = 9,
\end{aligned}$$

g)

$$5x+3y+9z+3=82$$

$$\begin{aligned}
4x+3y+1z+6 &= 56 \\
8x+5y+9z+8 &= 120 \\
\Leftrightarrow x &= 5, y = 9, z = 3,
\end{aligned}$$

h)

$$1x+8y+4z+7=55$$

$$7x+2y+9z+5=116$$

$$4x+9y+3z+9=61$$

$$\Leftrightarrow x = 4, y = 1, z = 9,$$

i)

$$7x+5y+4z+3=112$$

$$2x+4y+6z+8=74$$

$$5x+2y+9z+3=96$$

$$\Leftrightarrow x = 9, y = 6, z = 4,$$

j)

$$7x+5y+3z+2=118$$

$$7x+3y+4z+3=111$$

$$1x+7y+9z+2=114$$

$$\Leftrightarrow x = 9, y = 7, z = 6,$$

k)

$$1x+3y+8z+9=105$$

$$1x+9y+5z+7=133$$

$$7x+3y+4z+1=95$$

$$\Leftrightarrow x = 5, y = 9, z = 8,$$

l)

$$6x+2y+3z+3=55$$

$$7x+1y+3z+6=60$$

$$3x+4y+7z+2=78$$

$$\Leftrightarrow x = 4, y = 2, z = 8,$$

m)

$$4x+4y+1z+7=42$$

$$1x+9y+6z+1=74$$

$$6x+5y+9z+2=104$$

$$\Leftrightarrow x = 4, y = 3, z = 7,$$

n)

$$9x+1y+4z+5=96$$

$$2x+8y+4z+7=77$$

$$7x+6y+6z+1=106$$

$$\Leftrightarrow x = 9, y = 6, z = 1,$$

o)

$$9x+9y+1z+2=57$$

$$9x+5y+1z+9=56$$

$$2x+8y+3z+9=36$$

$$\Leftrightarrow x = 4, y = 2, z = 1,$$