**LGS mit drei Variablen I**

**Bestimme x,y und z. Schreibe die Lösungsmenge.**

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| --- | --- |
| I. 7x + 9y + 7z = 40  II. 3x + 7y + 7z = 26  III. -2x - 2y - 3z = -15  I. – II.  IV. 4x + 2y = 14  I. 7x + 9y + 7z = 40 |·3  III. 3x + 7y + 7z = 26 |·(-7)  I. 21x + 27y + 21z = 120  III. 14x + 14y + 21z = 105  I. – III.  V. 7x + 13y = 15  IV. 4x + 2y = 14 |·7  V. 7x + 13y = 15 |·4  IV. 28x + 14y = 98  V. 28x + 52y = 60  IV. – V.  -38y = 38 |:(-38)  **y = -1**  in IV: 4x – 2 = 14 |+2  4x = 16 |:4  x = 4  in I: 28 – 9 – 7z = 40 |-19  7z = 21 |:7  **z = 3**  **L = {4; -1; 3}** | I. 7x + 9y + 9z = 46  II. 2x + 4y + 9z = 6  III. 7x + 4y - 8z = 60  I. – II.  IV. 5x + 5y = 40  I. 7x + 9y + 9z = 46 |·8  III. 7x + 4y - 8z = 60 |·9  I. 56x + 72y + 72z = 368  III. 63x + 36y - 72z = 540  I. + III.  V. 118x + 108y = 908  IV. 5x + 5y = 40 |:5  V. 119x + 108y = 908  IV. x + y = 8 | -y  x = 8 – y  Einsetzungsverfahren: IV in V  119·(8 – y) + 108y = 908 |T  952 – 119y + 108y = 908 |T  952 – 11y = 908 |-952  -10y = - 44 |:(-10)  **y = 4**  in IV: **x = 8 – 4 = 4**  in I: 28 + 36 + 9z = 46 |-64  9z = -18 |:(-2)  **z = -2**  **L = {4; 4; -2}** |