**3,3-Gleichungssystem (linear, eindeutig, lösbar)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *2* | **x** | **+** | *3* | **y** | **+** | *4* | **z** | **=** | *295,5* |
| *3* | **x** | **+** | *2* | **y** | **+** | *2* | **z** | **=** | *210* |
| *3* | **x** | **+** | *4* | **y** | **+** | *3* | **z** | **=** | *314,8* |

**Prüfung auf eindeutige Lösbarkeit:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | *2* | *3* | *4* |  |  |  |  |
| **D0** | **=** | *3* | *2* | *2* | **≠** | **0** | **=** | *11* |
|  |  | *3* | *4* | *3* |  |  |  |  |

**Berechnung der Determinanten D1, D2, D3:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | *295,5* | *3* | *4* |  |  |
| **D1** | **=** | *210* | *2* | *2* | **=** | *249,4* |
|  |  | *314,8* | *4* | *3* |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | *2* | *295,5* | *4* |  |  |
| **D2** | **=** | *3* | *210* | *2* | **=** | *371,9* |
|  |  | *3* | *314,8* | *3* |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | *2* | *3* | *295,5* |  |  |
| **D3** | **=** | *3* | *2* | *210* | **=** | *409* |
|  |  | *3* | *4* | *314,8* |  |  |

**Berechnen der Unbekannten x, y, z:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **D1** |  | *249,4* |  |  |
| **x** | **=** | **----** | **=** | **---------** | **=** | *22,67* |
|  |  | **D0** |  | *11* |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **D2** |  | *371,9* |  |  |
| **y** | **=** | **----** | **=** | **---------** | **=** | *33,81* |
|  |  | **D0** |  | *11* |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **D3** |  | *409* |  |  |
| **z** | **=** | **----** | **=** | **---------** | **=** | *37,18* |
|  |  | **D0** |  | *11* |  |  |