

## Lineare Gleichungen 2

Lösen Sie folgende Gleichungen; führen Sie die Probe durch

1.  $4x + 4 = 12$
2.  $3x - 6 = 9$
3.  $-5x - 13 = 12$
4.  $\frac{1}{2}x + 4 = 5$
5.  $2x - 7 = -18$
6.  $\frac{1}{4}x + 2 = 12$
7.  $\frac{3}{4}x + 33 = 33$
8.  $7x - 14 = -49$
9.  $6x + 6 = 0$
10.  $-\frac{1}{3}x - 9 = 0$
11.  $2x + 5 = 7$
12.  $3x - 4 = 5$
13.  $7x + 17 = 3$
14.  $4x - 5 = -3$
15.  $7x - 4 = -4$
16.  $8x - 4 = 4$
17.  $10x + 4 = 4$
18.  $-2x + 4 = -4$
19.  $-9 + 8x = 7$
20.  $9 + 8x = -7$

## Lineare Gleichungen 2

1.

$$\begin{aligned}4x &= 12 \quad | -4 \\ \Leftrightarrow 4x &= 8 \quad | :4 \\ \Leftrightarrow x &= 2 \\ \text{Probe: } 2 * 4 + 4 &= 12\end{aligned}$$

2.

$$\begin{aligned}3x - 6 &= 9 \quad | +6 \\ \Leftrightarrow 3x &= 15 \quad | :3 \\ \Leftrightarrow x &= 5 \\ \text{Probe: } 3 * 5 - 6 &= 9\end{aligned}$$

3.

$$\begin{aligned}-5x - 13 &= 12 \quad | +13 \\ \Leftrightarrow -5x &= 25 \quad | :(-5) \\ \Leftrightarrow x &= -5 \quad | :(-5) \\ \text{Probe: } -5 * (-5) - 13 &= 12\end{aligned}$$

4.

$$\begin{aligned}\frac{1}{2}x + 4 &= 5 \quad | -4 \\ \Leftrightarrow \frac{1}{2}x &= 1 \quad | *2 \\ \Leftrightarrow x &= 2 \\ \text{Probe: } \frac{1}{2} * 2 + 4 &= 5\end{aligned}$$

5.

$$\begin{aligned}2x - 7 &= -18 \quad | +7 \\ \Leftrightarrow 2x &= -11 \quad | :2 \\ \Leftrightarrow x &= -\frac{11}{2} \\ \text{Probe: } 2 * \left(-\frac{11}{2}\right) - 7 &= -18\end{aligned}$$

6.

$$\begin{aligned}\frac{1}{4}x + 2 &= 12 \quad | -2 \\ \Leftrightarrow \frac{1}{4}x &= 10 \quad | *4 \\ \Leftrightarrow x &= 40 \\ \text{Probe: } \frac{1}{4} * 40 + 2 &= 12\end{aligned}$$

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7.

$$\begin{aligned} \frac{3}{4}x + 33 &= 33 & | - 33 \\ \Leftrightarrow \frac{3}{4}x &= 0 & | * \frac{4}{3} \\ \Leftrightarrow x &= 0 \\ \text{Probe: } \frac{3}{4} * 0 + 33 &= 33 \end{aligned}$$

8.

$$\begin{aligned} 7x - 14 &= -49 & | + 14 \\ \Leftrightarrow 7x &= -35 & | : 7 \\ \Leftrightarrow x &= -5 \\ \text{Probe: } 7 * (-5) - 14 &= -49 \end{aligned}$$

9.

$$\begin{aligned} 6x + 6 &= 0 & | - 6 \\ \Leftrightarrow 6x &= -6 & | : 6 \\ \Leftrightarrow x &= -1 \\ \text{Probe: } 6 * (-1) + 6 &= 0 \end{aligned}$$

10.

$$\begin{aligned} -\frac{1}{3}x - 9 &= 0 & | + 9 \\ \Leftrightarrow -\frac{1}{3}x &= -9 & | : (-\frac{1}{3}) \\ \Leftrightarrow x &= 27 \\ \text{Probe: } \frac{1}{3} * (27) - 9 &= 0 \end{aligned}$$

11.

$$\begin{aligned} 2x + 5 &= 7 & | - 5 \\ \Leftrightarrow 2x &= 2 & | : 2 \\ \Leftrightarrow x &= 1 \\ \text{Probe: } 2 * 1 + 5 &= 7 \end{aligned}$$

12.

$$\begin{aligned} 3x - 4 &= 5 & | + 4 \\ \Leftrightarrow 3x &= 9 & | : 3 \\ \Leftrightarrow x &= 3 \\ \text{Probe: } 3 * 3 - 4 &= 5 \end{aligned}$$

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13.

$$\begin{aligned} 7x + 17 &= 3 && | -17 \\ \Leftrightarrow 7x &= -14 && | :7 \\ \Leftrightarrow x &= -2 \\ \text{Probe: } 7 * (-2) + 17 &= 3 \end{aligned}$$

14.

$$\begin{aligned} 4x - 5 &= -3 && | +5 \\ \Leftrightarrow 4x &= 2 && | :4 \\ \Leftrightarrow x &= \frac{1}{2} \\ \text{Probe: } \frac{1}{2} * 4 - 5 &= -3 \end{aligned}$$

15.

$$\begin{aligned} 7x - 4 &= -4 && | +4 \\ \Leftrightarrow 7x &= 0 && | :7 \\ \Leftrightarrow x &= 0 \\ \text{Probe: } 7 * 0 - 4 &= -4 \end{aligned}$$

16.

$$\begin{aligned} 8x - 4 &= 4 && | +4 \\ \Leftrightarrow 8x &= 8 && | :8 \\ \Leftrightarrow x &= 1 \\ \text{Probe: } 8 * 1 - 4 &= 4 \end{aligned}$$

17.

$$\begin{aligned} 10x + 4 &= 4 && | -4 \\ \Leftrightarrow 10x &= 0 && | :10 \\ \Leftrightarrow x &= 0 \\ \text{Probe: } 10 * 0 + 4 &= 4 \end{aligned}$$

18.

$$\begin{aligned} -2x + 4 &= -4 && | -4 \\ \Leftrightarrow -2x &= -8 && | :-(2) \\ \Leftrightarrow x &= 4 \\ \text{Probe: } 4 * -(2) + 4 &= -4 \end{aligned}$$

19.

$$\begin{aligned} -9 + 8x &= 7 && | +9 \\ \Leftrightarrow 8x &= 16 && | :8 \\ \Leftrightarrow x &= 2 \\ \text{Probe: } -9 + 8 * 2 &= 7 \end{aligned}$$

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20.

$$\begin{aligned} & 9 + 8x = 7 \quad | -9 \\ \Leftrightarrow & 8x = -2 \quad | :8 \\ \Leftrightarrow & x = \frac{1}{4} \\ \text{Probe: } & 9 - 8 * \frac{1}{4} = 7 \end{aligned}$$