

Lösungen zur Klassenarbeit 6b - Terme der Klasse 7d
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1. (a)

$$(11 + x) \cdot (11 - x)$$

(b)

$$15 - \frac{11 \cdot (-7)}{12 - 5}$$

(c)

$$\frac{2x}{x - 1}$$

2. (a)

$$a^2 + a + ab + a + ab = a^2 + a + a + ab + ab = a^2 + 2a + 2ab$$

(b)

$$4xy - 3x + 7xy - xy + 8x = 4xy + 7xy - xy - 3x + 8x = 10xy + 5x$$

(c)

$$27ab - 12a^2 + 13bc - a^2 - 12bc + ab = 27ab + ab - 12a^2 - a^2 + 13bc - 12bc = 28ab - 13a^2 + bc$$

3.

$$\left(\frac{1}{12} - \frac{7}{3} + \frac{7}{8}\right) \cdot (-24) = -2 + 56 - 21 = 33$$

4.

x	$T_1(x)$	$T_2(x)$	$T_3(x)$
0	0	0	0
-1	3	2	3
1	-1	0	-1
2	0	2	0
0,5	-0,75	-0,25	-0,75
-2,5	11,25	8,75	11,25

5. (a)

$$120 - 68x - 200 - 53x + 9x = 120 - 200 - 68x - 53x + 9x = -80 - 112x$$

(b)

$$-(13a + 9) + (-5a + 41) = -13a - 9 - 5a + 41 = -13a - 5a - 9 + 41 = -18a + 32$$

(c)

$$\begin{aligned}(3a+6b)-[(7a-3b)+(-b+a)-(5a-7b)] &= 3a+6b-[7a-3b-b+a-5a+7b] = \\ 3a+6b-[7a+a-5a-3b-b+7b] &= 3a+6b-[3a+3b] = \\ 3a+6b-3a-3b &= 3a-3a+6b-3b = 3b\end{aligned}$$

(d)

$$2(5p-q)+3(2q-p)-4(2p-3q) = 10p-2q+6q-3p-8p+12q = 10p-3p-8p-2q+6q+12q = -p+16q$$

6. (a)

$$\begin{aligned}8x+10 &= 34 \\ 8x &= 24 \\ x &= 3\end{aligned}$$

(b)

$$\begin{aligned}9-13x+5 &= 3x-2-20x \\ 9+5-13x &= 3x-20x-2 \\ \mathbf{x=-4}\end{aligned}$$

(c)

$$\begin{aligned}x-3(x-1)-12 &= 24(x+2)-(x+7) \\ x-3x+3-12 &= 24x+48-x-7 \\ -2x-9 &= 24x-x+48-7 \\ -2x-9 &= 23x+41 \\ -25x &= 50 \\ x &= -2\end{aligned}$$

(d)

$$\begin{aligned}3(4-x)-(7x+8) &= 4+(2x-4)-(x-26) \\ 12-3x-7x-8 &= 4+2x-4-x+26 \\ 12-8-3x-7x &= 4-4+26+2x-x \\ 4-10x &= 26+x \\ -10x &= 22+x \\ -11x &= 22 \\ x &= -2\end{aligned}$$