Röd kurs s.101

EKVATIONER MED X I BÅDA LEDEN

18

a) $2x - 3 = x + 7 \quad \| -x$

$x - 3 = 7 \quad \| +3$

$x = 10$

b) $7x + 8 = 5x + 14 \quad \| -5x$

$2x + 8 = 14 \quad \| -8$

$2x = 6 \quad \| :2$

$x = 3$

c) $6 + 7x = 32 + 6x \quad \| -6x$

$6 + x = 32 \quad \| -6$

$x = 26$

19

a) $3x - 8 = x + 6 \quad \| -x$

$2x - 8 = 6 \quad \| +8$

$2x = 14 \quad \| :2$

$x = 7$

b) $2x + 8 = 5x - 16$

$5x - 16 = 2x + 8 \quad \| -2x$

$3x - 16 = 8 \quad \| +16$

$3x = 24 \quad \| :3$

$x = 8$

c) $15 + 4x = 7x - 3$

$7x - 3 = 15 + 4x \quad \| -4x$

$3x - 3 = 15 \quad \| +3$

$3x = 18 \quad \| :3$

$x = 6$

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20

a) $4(x-8) = 2(x+3)$

$4\cdot x - 4\cdot 8 = 2\cdot x + 2\cdot 3$

$4x - 32 = 2x + 6 \quad || -2x$

$2x - 32 = 6 \quad || +32$

$2x = 38 \quad || :2$

$x = 19$

b) $8x + 5(12-x) = 7(x+4)$

$8x + 5\cdot 12 - 5\cdot x = 7\cdot x + 7\cdot 4$

$8x + 60 - 5x = 7x + 28$

$3x + 60 = 7x + 28$

$7x + 28 = 3x + 60 \quad || -3x$

$4x + 28 = 60 \quad || -28$

$4x = 32 \quad || :4$

$x = 8$

21

a) $44 - 3(4-2x) = 10(2+3x)$

$44 - 3\cdot 4 + 3\cdot 2x = 10\cdot 2 + 10\cdot 3x \qquad -3\cdot(-2x) = 6x$

$44 - 12 + 6x = 20 + 30x$

$30x + 20 = 6x + 32 \quad || -6x$

$24x + 20 = 32 \quad || +20$

$24x = 52 \quad || :24$

$\underline{\underline{x = 0{,}5}}$

b) $27 - 3(x+1) = 10x - 3(x-4)$

$27 - 3\cdot x - 3\cdot 1 = 10x - 3\cdot x + 3\cdot 4$

$27 - 3x - 3 = 10x - 3x + 12$

$-3x + 24 = 7x + 12$

$7x + 12 = -3x + 24 \quad || +3x$

$10x + 12 = 24 \quad || -12$

$10x = 12$

$10x = 12 \quad || :10$

$\underline{\underline{x = 1{,}2}}$

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s. 101

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22 a) $5(x-7) - 4(x-1) = 8(x+3) - 12x$

$5 \cdot x - 5 \cdot 7 - 4 \cdot x + 4 \cdot 1 = 8 \cdot x + 8 \cdot 3 - 12x$

$5x - 35 - 4x + 4 = 8x + 24 - 12x$

$x - 31 = -4x + 24 \quad || +4x$

$5x - 31 = 24 \quad || +31$

$5x = 55 \quad || :5$

$x = 11$

b) $3(x-2) - 1{,}5(2x-4) = 5(0{,}1x + 2)$

$\cancel{3x} - \cancel{6} - \cancel{3x} + \cancel{6} = 0{,}5x + 10$

$0 = 0{,}5x + 10$

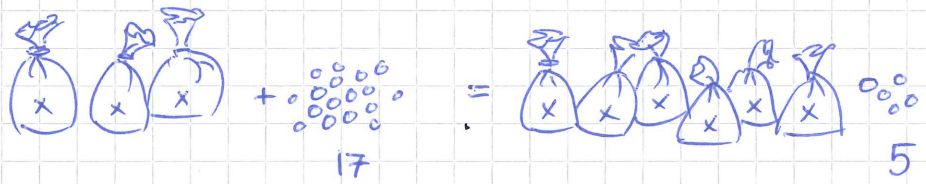
$0{,}5x + 10 = 0 \quad || -10$

$0{,}5x = -10 \quad || :0{,}5$

$x = \frac{-10}{0{,}5}$

$x = -20$

23



$3x + 17 = 6x + 5$

$6x + 5 = 3x + 17 \quad || -3x$

$3x + 5 = 17 \quad || -5$

$3x = 12 \quad || :3$

$x = 4$

Svar: Det finns 4 kulor i varje påse