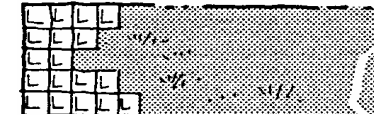
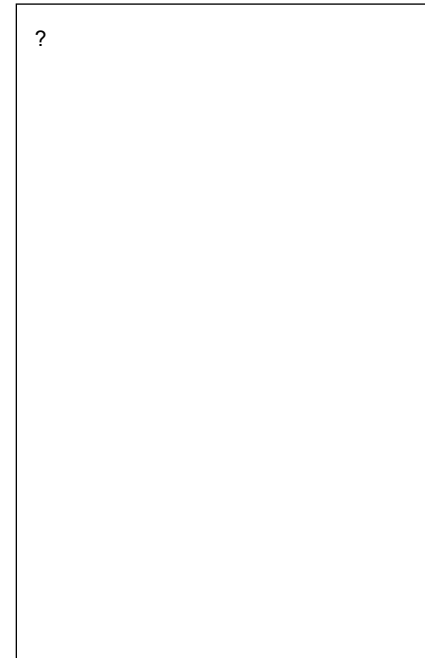


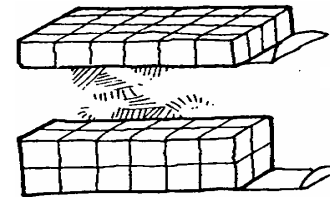
# 19 Ontbinden



breedte	1	2	3	4	6	8	9	12
lengte	144	72	48	36	24	18	16	12

12 bij 12 tegels

9 bij 16 tegels



1 bij 4 bij 6 cm en 2 bij 2 bij 6 cm

1 bij 1 bij 24 cm

lengte	breedte	hoogte	opperv.
1	1	24	98
1	2	12	76
1	3	8	70
1	4	6	68
2	2	6	56
2	3	4	52

2 bij 3 bij 4 cm

1, 1, 64      2, 2, 16  
 1, 2, 32      2, 4, 8  
 1, 4, 16      4, 4, 4  
 1, 8, 8

4 bij 4 bij 4

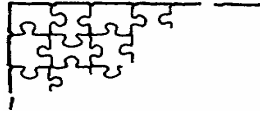
Zie hieronder voor alle acht de mogelijkheden.

3 bij 3 bij 4

jongste	middelste	oudste	Som
1	1	36	38
1	2	18	21
1	3	12	16
1	4	9	14
1	6	6	13
2	2	9	13
2	3	6	11
3	3	4	10

Omdat Ofelia het nog steeds niet wist, moet de som 13 zijn.  
 Omdat er een oudste is, blijft alleen de mogelijkheid over: 2, 2 en 9 jaar.

7 rijen met 13 zitplaatsen  
 of  
 13 rijen met 7 zitplaatsen

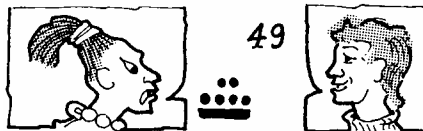


$11 \cdot 17 = 187$   
 Er liggen 11 stukjes op een rij  
 of  
 er liggen 17 stukjes op een rij.

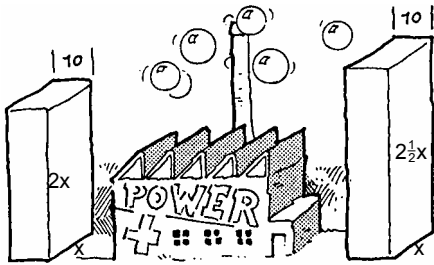
$$2 \cdot 11 + 2 \cdot 17 - 4 \text{ (hoekstukjes)} = 52$$

lengte	breedte	hoogte
225	1	1
75	3	1
45	5	1
25	9	1
15	15	1
25	3	3
15	5	3
9	5	5

Alleen in de middelste laag:  $3 \cdot 13 = 39$



2, 4, 5, 10, 13, 20, 26, 52, 65 of 130  
 Het meest waarschijnlijk zijn: 10, 13, 20 en 26.

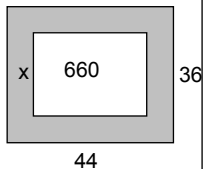


Zie plaatje

$$\begin{aligned} 10 \cdot x \cdot 2x + 2000 &= 10 \cdot x \cdot 2\frac{1}{2}x \\ 20x^2 + 2000 &= 25x^2 \\ 5x^2 &= 2000 \\ x^2 &= 400 \\ x &= 20 \text{ of } x = -20 \end{aligned}$$

Antwoord: 10 bij 20 bij 40 cm

$$\begin{aligned} (36-2x)(44-2x) &= 660 \\ 1584 - 160x + 4x^2 &= 660 \\ 4x^2 - 160x - 924 &= 0 \\ x^2 - 40x - 231 &= 0 \\ (x-7)(x-33) &= 0 \\ x = 7, x = 33 \end{aligned}$$



$x = 33$  kan niet.

Antwoord:  $x = 7$  m

$$81 = 3^4$$

$$81^3 = (3^4)^3 = 3^{12}$$

$$8100 = 81 \cdot 100 = 3^4 \cdot 2^2 \cdot 5^2$$

$$(8100)^3 = (3^4 \cdot 2^2 \cdot 5^2)^3 = 2^6 \cdot 3^{12} \cdot 5^6$$

Noem de breedte:  $x$  (meter)

hele tuin	=	perken	+ paden
$(4x+48)^2$	=	$9 \cdot 16^2$	+ 400
$(4x+48)^2$	=	2704	
$4x+48$	=	52	
$4x$	=	4	
$x$	=	1	

Breedte: 1 meter



Henk:  $x \cdot (10-2x) + 2 \cdot x \cdot 15 = -2x^2 + 40x$

Erik:  $15 \cdot x + 3 \cdot x \cdot (10-x) = -3x^2 + 45x$

$$-2x^2 + 40x = -3x^2 + 45x$$

$$x^2 - 5x = 0$$

$$x(x-5) = 0$$

$$x = 0, x = 5$$

Breedte: 5 cm

7,2 gram geeft een inhoud van  $6 \text{ cm}^3$ .

$$-2x^2 + 40x + 6 = -3x^2 + 45x$$

$$x^2 - 5x + 6 = 0$$

$$(x-2)(x-3) = 0$$

$$x = 2, x = 3$$

De breedte is 2 cm of 3 cm.

1 bij 24, 2 bij 12, 3 bij 8, 4 bij 6 tegels

1 bij 25, 5 bij 5 tegels

1 bij 26, 2 bij 13 tegels

1 bij 23 tegels

2, 3, 5, 7, 11, 13, 17, 19, ...

2, 3, 5, 7, 11, 13, 17, 19, 23, 29

nee,  $91 = 7 \cdot 13$

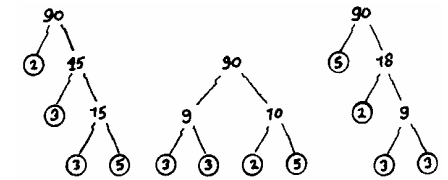
ja

nee,  $111 = 3 \cdot 37$

nee,  $161 = 7 \cdot 23$

Ja, kwadraat = getal  $\cdot$  getal

Ja, een even getal =  $2 \cdot$  getal



$$66 = 2 \cdot 3 \cdot 11$$

$$36 = 2^2 \cdot 3^2$$

$$46 = 2 \cdot 23$$

$$64 = 2^6$$

$$80 = 2^4 \cdot 5$$

$$800 = 2^5 \cdot 5^2$$

3, 5, 9, 15, 25, 27, 45

$$111 = 3 \cdot 37$$

$$222 = 2 \cdot 3 \cdot 37$$

$$1110 = 2 \cdot 3 \cdot 5 \cdot 37$$

$$111^2 = 3^2 \cdot 37^2$$

$$2^4 \cdot 7^3 \cdot 11$$

$$2^4 \cdot 5 \cdot 7^3 \cdot 11$$

$$2^6 \cdot 7^6 \cdot 11^2$$

1. Voor welke  $x$  geldt:  $x^2 = 25$  ?
2.  $x = 5$  of  $x = -5$

1. Voor welke  $x$  geldt:  $x + (x+1) = 51$  ?
2.  $x = 25$

1. Voor welke  $x$  geldt:  $x \cdot (x+1) = 56$  ?
2.  $x = 7$  ,  $x = -8$

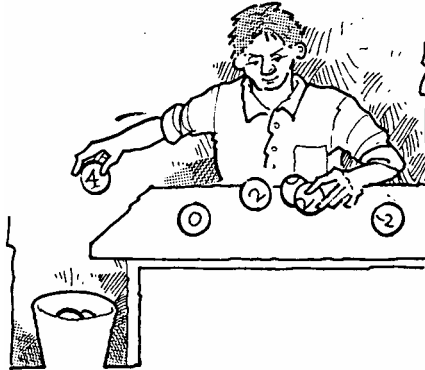
1. Voor welke  $x$  geldt:  $x^3 = 8$  ?
2.  $x = 2$

1. Voor welke  $x$  geldt:  $x^2 = -64$  ?
2. geen  $x$

1. Voor welke  $x$  geldt:  $x^3 = -64$  ?
2.  $x = -4$

1. Voor welke  $x$  geldt:  $3x = x + 5$  ?
2.  $x = 2\frac{1}{2}$

- 0 en 2 voldoen , 4 niet
- 1 en 1 voldoen , 0 en 2 niet
- 4 en 1 voldoen , -1 en 4 niet
- 1 en 4 voldoen , 1 en -4 niet



- $x = 2$
- $x = 0$
- geen  $x$
- $x = -4$
- $x = 3$  ,  $x = -3$
- geen  $x$
- $x = 2$
- $x = -2$
- $x = 3$  ,  $x = -5$
- $x = -1$

### ERLEI VERGELIJKINGEN / ADRATEN EN HOGERE MACHTEN

### T PRODUCT IS NUL

### STEMATISCH OPLOSSEN

$$+ 9 = 10x$$

$$+ 9x^2 = 10x^3$$

$$+ 9 = 10x^2$$

$$2p(2p+4,5) - p^2 = 120$$

$$4p^2 + 9p - p^2 = 120$$

$$3p^2 + 9p - 120 = 0$$

$$p^2 + 3p - 40 = 0$$

$$(p-5)(p+8) = 0$$

$$p = 5 \text{ of } p = -8$$

$$p = -8 \text{ kan niet}$$

Afmetingen: 10 bij 14,5 meter

$$x^2 - 4x = 0$$

$$x(x-4) = 0$$

$$x = 0 \text{ , } x = 4$$

$$x^2 - 16 = 4 - x$$

$$x^2 + x - 20 = 0$$

$$(x+5)(x-4) = 0$$

$$x = -5 \text{ , } x = 4$$

$$x^2 - 8x + 16 = x^2 + 4x$$

$$4x = -16$$

$$x = -4$$

$$x^2 - 8x + 16 = 4 - x$$

$$x^2 - 7x + 12 = 0$$

$$(x-3)(x-4) = 0$$

$$x = 3 \text{ , } x = 4$$

$$x^2 + 8x + 16 = 16x$$

$$x^2 - 8x + 16 = 0$$

$$(x-4)(x-4) = 0$$

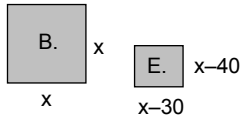
$$x = 4$$

$$x^2 + 8x + 16 = 16$$

$$x^2 + 8x = 0$$

$$x(x+8) = 0$$

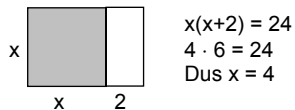
$$x = 0 \text{ , } x = -8$$



$$\begin{aligned}x^2 &= 2 \cdot (x-30)(x-40) \\x^2 &= 2 \cdot (x^2 - 70x + 1200) \\x^2 &= 2x^2 - 140x + 2400 \\x^2 - 140x + 2400 &= 0 \\(x-120)(x-20) &= 0 \\x &= 120 \text{ of } x = 20\end{aligned}$$

$x = 20$  kan niet, want dan zou Ermers land negatieve afmetingen hebben.

Antwoord:  
Berends: 120 bij 120 m.  
Ermers: 80 bij 90 m.



$$\begin{aligned}x(x+2) &= 24 \\4 \cdot 6 &= 24 \\Dus x &= 4\end{aligned}$$

OF

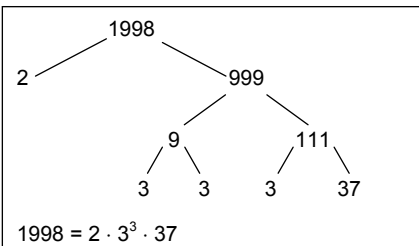
$$\begin{aligned}x(x+2) &= 24 \\x^2 + 2x - 24 &= 0 \\(x+6)(x-4) &= 0 \\x &= -6, x = 4 \\x &= -6 \text{ kan niet. Dus } x = 4 \text{ m}\end{aligned}$$



$$\begin{aligned}\text{prijs per persoon: } & 25 - 0,50 \cdot 7 = 21,50 \\ \text{totale prijs: } & 17 \cdot 21,50 = 365,50 \text{ euro}\end{aligned}$$

$$\begin{aligned}\text{prijs per persoon: } & 25 - 0,5(x-10) = 30 - 0,5x \\ \text{totale prijs: } & x \cdot (30 - 0,5x) = -0,5x^2 + 30x\end{aligned}$$

$$\begin{aligned}-0,5x^2 + 30x &= 432 \\x^2 - 60x + 864 &= 0 \\(x-36)(x-24) &= 0 \\x &= 36 \text{ of } x = 24 \\x &= 36 \text{ kan niet, dus } x = 24\end{aligned}$$



52, namelijk  $37 + 9 + 6$

$$\text{Vinja, want } 3 \cdot 2^2 = 3 \cdot 4 = 12$$

$$(3 \cdot 2)^2$$

$$3 \cdot 4^2 - 6 \cdot 4 = 3 \cdot 16 - 24 = 24, \text{ dus 4 voldoet.}$$

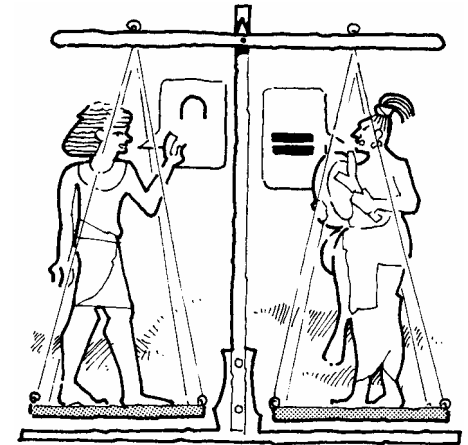
$$\begin{aligned}\frac{1}{2} \cdot 6^2 &= 18 & 2 \cdot 2^3 &= 16 \\2 \cdot 3 \cdot 4^2 &= 96 & 2^2 \cdot 2 \cdot 3^2 &= 72 \\4 \cdot \frac{1}{2}^2 &= 1 & 16 \cdot \frac{1}{2}^4 &= 1\end{aligned}$$

Vinja

$$(-4)^2$$

-12	1	-1
-----	---	----

$$\begin{aligned}-2x^2 \cdot -5x^2 &= 10x^4 \\(-2x)^2 \cdot -5x^2 &= -20x^4 \\-2x^2 \cdot (-5x)^2 &= -50x^4 \\(-2x)^2 \cdot (-5x)^2 &= 100x^4\end{aligned}$$



$$\begin{aligned}\frac{1}{2}x + \frac{1}{2} &= 3 - 2x - 2 \\x + 1 &= 6 - 4x - 4 \\x + 1 &= 2 - 4x \\x &= \frac{1}{5}\end{aligned}$$

$$\begin{aligned}\text{Controle: } \frac{1}{2} \cdot \left(\frac{1}{5} + 1\right) &= \frac{3}{5} \\3 - 2\left(\frac{1}{5} + 1\right) &= \frac{3}{5}\end{aligned}$$

$$\begin{aligned}x^2 + 5x + 6 &= x^2 + 1 \\5x + 6 &= 1 \\5x &= -5 \\x &= -1\end{aligned}$$

$$\begin{aligned}\text{Controle: } (-1+3) \cdot (-1+2) &= 2 \\(-1)^2 + 1 &= 2\end{aligned}$$

$$\begin{aligned}x + 7 &= \frac{1}{2}x + 3 + \frac{1}{3}x - 2 \\6x + 42 &= 3x + 18 + 2x - 12 \\6x + 42 &= 5x + 6 \\x + 42 &= 6 \\x &= -36\end{aligned}$$

$$\begin{aligned}\text{Controle: } -36 + 7 &= -29 \\ \frac{1}{2}(-36+6) + \frac{1}{3}(-36-6) &= -15 - 14 = -29\end{aligned}$$

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

$$x = 12, x = -12$$

$$x = 5, x = -7$$

$$x = 11, x = -1$$

$$x = 10, x = -10$$

$$x = 5, x = -5$$

$$x = 7, x = -13$$

$$x = 1, x = 21$$

$$x = 2\frac{1}{2}, x = -3\frac{1}{2}$$

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

geen x

$$x = 0, x = -1$$

$$x = 10, x = -10$$

$$x = 8, x = -8$$

$$x = -26, x = -46$$

$$x = \frac{5}{3}, x = -\frac{5}{3}$$

$$x = 3$$

$$x = 2$$

$$x = -3$$

$$x = -4$$

$$x = 5, x = 9$$

geen x

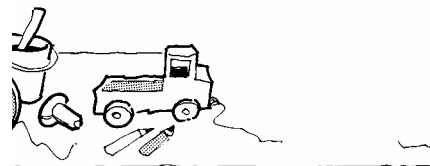
geen x

$$x = 2, x = -2$$

geen x

$$x = 2, x = -2$$

DEERD  
INDIENBAAR!



$$\begin{aligned} x(x+7) &= 260 \\ x^2 + 7x - 260 &= 0 \\ (x-13)(x+20) &= 0 \\ x &= 13, x = -20 \end{aligned}$$

Antwoord:  $x = 13$  tegels

$$\begin{aligned} 5x^2 &= 405 \\ x^2 &= 81 \\ x &= 9, x = -9 \end{aligned}$$

Antwoord:  $x = 9$  tegels

$$\begin{aligned} 12x - 36 &= 168 \\ 12x &= 204 \\ x &= 17 \end{aligned}$$

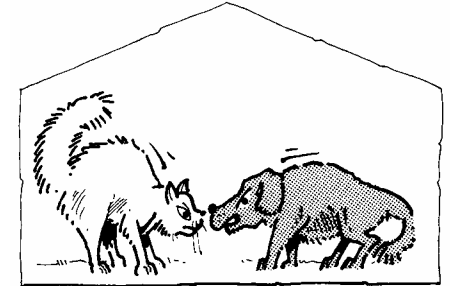
Antwoord:  $x = 17$  tegels

$$x = 62$$

$$\begin{aligned} x+2 &= 8 \text{ of } x+2 = -8 \\ x &= 6, x = -10 \end{aligned}$$

$$\begin{aligned} x+2 &= 4 \\ x &= 2 \end{aligned}$$

$$\begin{aligned} x+2 &= 2 \text{ of } x+2 = -2 \\ x &= 0, x = -4 \end{aligned}$$



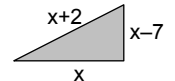
aantal honden	210	105	70	42	35	30
aantal katten	1	2	3	5	6	7
	21	15	14	10	7	6
	5	3	2	1		
	10	14	15	21	30	35
	42	70	105	210		

21 katten en 10 honden

Zie de tabel bij de vorige vraag.

30 katten en 7 honden  
of  
7 honden en 30 katten

$$\begin{aligned} x^2 + (x-7)^2 &= (x+2)^2 \\ x^2 + x^2 - 14x + 49 &= x^2 + 4x + 4 \\ x^2 - 18x + 45 &= 0 \\ (x-15)(x-3) &= 0 \\ x &= 15 \text{ of } x = 3 \end{aligned}$$



$x = 3$  kan niet, omdat dan  $x-7$  negatief is.

Dus is de schuine zijde  $15 + 2 = 17$  cm.

$$x = 4, x = -10$$

geen x

$$x = -3$$

$$x^2 - 8x + 16 = 0$$

$$(x-4)(x-4) = 0$$

$$x = 4$$

$$x^4 - 8x^2 + 16 = 0$$

$$(x^2-4)(x^2-4) = 0$$

$$x^2 = 4$$

$$x = 2, x = -2$$

$$x^4 - 3x^2 - 4 = 0$$

$$(x^2-4)(x^2+1) = 0$$

$$x^2 = 4 \text{ of } x^2 = -1$$

$$x^2 = -1 \text{ kan niet}$$

$$x = 2, x = -2$$

$$x^6 + 7x^3 - 8 = 0$$

$$(x^3+8)(x^3-1) = 0$$

$$x^3 = -8 \text{ of } x^3 = 1$$

$$x = -2, x = 1$$

$$x^4 = 16$$

$$x = 2, x = -2$$

$$x^4 = 16x^2$$

$$x^4 - 16x^2 = 0$$

$$x^2(x^2-16) = 0$$

$$x^2 = 0 \text{ of } x^2 = 16$$

$$x = 0, x = 4, x = -4$$

$$x^4 = 16x^3$$

$$x^4 - 16x^3 = 0$$

$$x^3(x-16) = 0$$

$$x = 0, x = 16$$

$$(x-9)(x-1) = 0$$

$$x = 9, x = 1$$

$$x^2(x-9)(x-1) = 0$$

$$x = 0, x = 9, x = 1$$

$$(x-1)(x-9)(x-1) = 0$$

$$x = 1, x = 9$$

$$x^2 + 4x - 12 = 0$$

$$(x+6)(x-2) = 0$$

$$x = -6, x = 2$$

$$2x^2 + 2x - 12 = 0$$

$$x^2 + x - 6 = 0$$

$$(x+3)(x-2) = 0$$

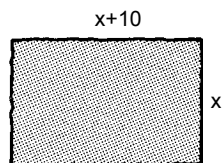
$$x = -3, x = 2$$

$$3x^2 + 9x - 12 = 0$$

$$x^2 + 3x - 4 = 0$$

$$(x+4)(x-1) = 0$$

$$x = -4, x = 1$$

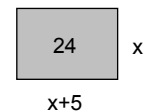


$$x \cdot (x + 10) = 600$$

$$x = 20$$

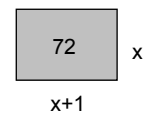
$$x \cdot (x+5) = 24$$

$$x = 3$$



$$x \cdot (x+1) = 72$$

$$x = 8$$



$$x \cdot (x+2) = 80$$

$$x = 8$$

$$x \cdot (x+11) = 80$$

$$x = 5$$

$$x \cdot (x+16) = 80$$

$$x = 4$$

$$x = 2$$

$$x = 8$$

$$x \cdot (x+5) = 24$$

$$x = 3$$

$$x \cdot (x-10) = 75$$

$$x = 15$$

$$3 \text{ en } 7$$

$$x \cdot (10-x) = 21$$

$$x \cdot (30-x) = 216$$

$$216 = 1 \cdot 216$$

$$= 2 \cdot 108$$

$$= 3 \cdot 72$$

$$= 4 \cdot 54$$

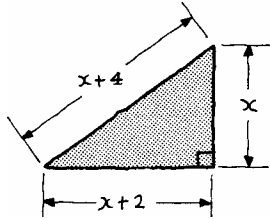
$$= 6 \cdot 36$$

$$= 8 \cdot 27$$

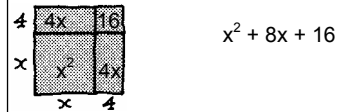
$$= 9 \cdot 24$$

$$= 12 \cdot 18$$

$$12 \text{ en } 18$$



$$x^2 + (x+2)^2 = (x+4)^2$$



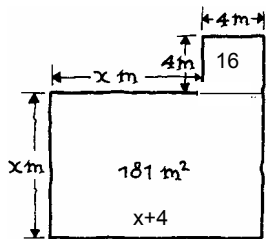
$$x^2 + 4x + 4$$

$$x^2 + x^2 + 4x + 4 = x^2 + 8x + 16$$

$$x^2 - 4x = 12$$

$$x \cdot (x-4) = 12$$

$$x = 6 \quad \triangle \quad 6^2 + 8^2 = 10^2$$



$$x \cdot (x+4) = 181 - 16 = 165$$

$$165 = 1 \cdot 165$$

$$= 3 \cdot 55$$

$$= 5 \cdot 33$$

$$= 11 \cdot 15$$

$$x = 11$$

$$(-8)^2 + 5 \cdot -8 = 64 - 40 = 24$$

$$(-5)^2 - 10 \cdot -5 = 25 + 50 = 75$$

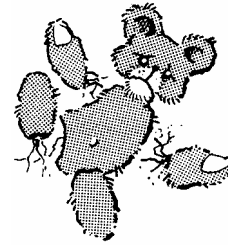
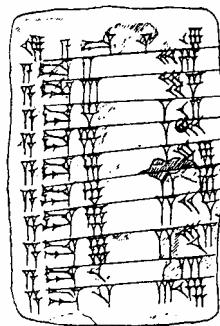
$$x = -6 \text{ en } x = -2$$

$$x = 5, x = -6$$

$$x = 10, x = -7$$

$$x = -5, x = -4$$

$$x = 1, x = 4$$



$$3x + 3 = x^2 + 5$$

$$x^2 - 3x + 2 = 0$$

$$(x-2)(x-1) = 0$$

$$x = 2, x = 1$$

$$x^2 + 4x + 3 = 1 - x^2$$

$$2x^2 + 4x + 2 = 0$$

$$x^2 + 2x + 1 = 0$$

$$(x+1)^2 = 0$$

$$x = -1$$

$$3x^2 + 6x + 3 = x^2 + 3$$

$$2x^2 + 6x = 0$$

$$2x(x+3) = 0$$

$$x = 0, x = -3$$

$$x^3 - 2x = x^3 + 2x^2$$

$$2x^2 + 2x = 0$$

$$2x(x+1) = 0$$

$$x = 0, x = -1$$

$$2x^2 - 4 = 4x^2 - 12$$

$$2x^2 = 8$$

$$x^2 = 4$$

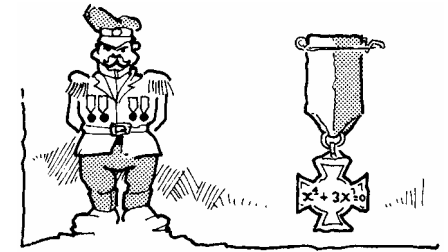
$$x = 2, x = -2$$

$$x^4 + 4x^2 + 4 = x^4 - 8x^2 + 16$$

$$12x^2 = 12$$

$$x^2 = 1$$

$$x = 1, x = -1$$



3 en 4

$$x^3 - 4x^2 + 4x = 0$$

$$x(x^2 - 4x + 4) = 0$$

$$x(x-2)(x-2) = 0$$

$$x = 0, x = 2$$

$$x^3 - 3x^2 - 4x = 0$$

$$x(x^2 - 3x - 4) = 0$$

$$x(x-4)(x+1) = 0$$

$$x = 0, x = 4, x = -1$$

$$x^4 + 9x^3 - 22x^2 = 0$$

$$x^2(x^2 + 9x - 22) = 0$$

$$x^2(x+11)(x-2) = 0$$

$$x = 0, x = -11, x = 2$$

$$x^2 - 8x + 16 = 0$$

$$(x-4)(x-4) = 0$$

$$x = 4$$

$$2x^2 - 10x = 0$$

$$2x(x-5) = 0$$

$$x = 0, x = 5$$

$$x^2 - 5x - 6 = 0$$

$$(x-6)(x+1) = 0$$

$$x = 6, x = -1$$

$$x^2(x+9) = 0$$

$$x = 0, x = -9$$

$$x^2 + 11x - 12 = 0$$

$$(x+12)(x-1) = 0$$

$$x = -12, x = 1$$

$$3x^2 - 6x + 3 = 0$$

$$x^2 - 2x + 1 = 0$$

$$(x-1)(x-1) = 0$$

$$x = 1$$

$$2x^2 - 4x + 2 = 0$$

$$x^2 - 2x + 1 = 0$$

$$(x-1)(x-1) = 0$$

$$x = 1$$

$$x^2 + 10x - 600 = 0$$

$$(x+30)(x-20) = 0$$

$$x = -30, x = 20$$

$x = -30$  kan niet, want  $x$  moet positief zijn.

Dus  $x = 20$ .

$$x(x+7) = 120$$

$$x^2 + 7x = 120$$

$$x^2 + 7x - 120 = 0$$

$$(x-8)(x+15) = 0$$

$$x = 8, x = -15$$

$$x+7$$

$$120$$

$$x$$

$x = -15$  kan niet  
Dus zijn de afmetingen: 8 bij 15 meter.

$$x^2 + 4x = 165$$

$$x^2 + 4x - 165 = 0$$

$$(x-11)(x+15) = 0$$

$$x = 11, x = -15$$

$x = -15$  kan niet  
Dus  $x = 11$  m

$$x^2 + (x-7)^2 = (x+1)^2$$

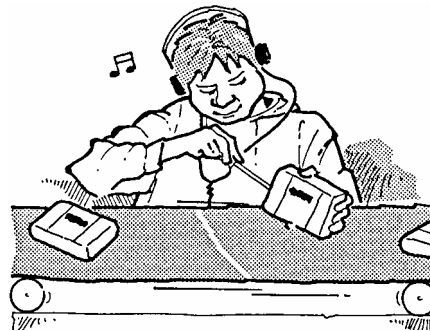
$$x^2 + x^2 - 14x + 49 = x^2 + 2x + 1$$

$$x^2 - 16x + 48 = 0$$

$$(x-12)(x-4) = 0$$

$$x = 12 \text{ of } x = 4$$

$x = 4$  kan niet, want  $x-7$  moet positief zijn.  
Dus  $x = 12$



De mensen lopen elkaar een beetje in de weg.

$$24 \cdot (10-4) = 144$$

$$25 \cdot (10-5) = 125$$

$$28 \cdot (10-8) = 56$$

$$n \cdot (10-(n-20))$$

$$n \cdot (10-(n-20)) = n \cdot (30-n)$$

$$25 \cdot (30-25) = 25 \cdot 5 = 125$$

$$n = 5$$

$$n \cdot (30-n) = 216$$

$$n = 12, n = 18$$

$$10$$

$$21 - x$$

$$10 \cdot 11 = 110 \text{ euro}$$

$$(21-x) \cdot x$$

$$x \cdot (21-x) = 104$$

$$8 \cdot 13 = 104 \text{ en } 13 \cdot 8 = 104$$

$$x = 8 \text{ of } x = 13$$



Een van de getallen moet 0 zijn.

$3 \cdot 20 = 60$ ,  $1 \cdot 60 = 60$ ,  $\frac{1}{2} \cdot 120 = 60$ .  
Dit kan op allerlei manieren.

0                      0

$$0 \cdot 4 = 0$$

$$x = -1$$

$$x = 1, x = -1, x = -2$$

Voor andere getallen  $x$  is  $x-1$  niet 0, is  $x+1$  niet 0 en is  $x+2$  niet 0.

$$x = -3, x = -5$$

$$x = 3, x = 1\frac{1}{2}$$

$$x = 0, x = 4$$

$$x = 2, x = -3, x = 4, x = -5$$

$$x = 0, x = 1, x = -4$$

$$x = 0, x = -\frac{1}{2}, x = -\frac{1}{3}, x = -\frac{1}{4}$$

$$(x-1)(x-3)(x-5)(x-7)(x-9) = 0$$

$$x(x-1)((x+1)(x-11)) = 0$$

$$x^2 = 0 \text{ of } x^2 = 1 \text{ of } x^2 = 9$$

$$x = 0, x = 1, x = -1, x = 3, x = -3$$

$$x^5 = 0 \text{ of } x^3 = 8 \text{ of } x+11 = 0$$

$$x = 0, x = 2, x = -11$$

$$x-9 = 0 \text{ of } x^2 = 9$$

$$x = 9, x = 3, x = -3$$

$$x = 0 \text{ of } x = 16$$

$$x = 0 \text{ of } x^2 = 16$$

$$x = 0, x = 4, x = -4$$

$$x^2 = -1 \text{ of } x^2 = 16$$
  
kan niet

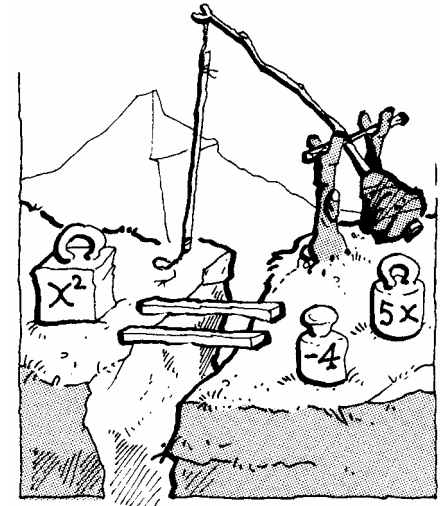
$$x = 4, x = -4$$

$$x^2 - 7x = x \cdot (x-7)$$

$$x^3 - 7x^2 = x^2 \cdot (x-7)$$

$$x^2 - 7x + 10 = (x-5)(x-2)$$

$$x^3 - 7x^2 + 10x = x(x-5)(x-2)$$



$$\begin{array}{l} x^2 + 10x + 16 = 0 \\ (x+8)(x+2) = 0 \\ x = -8 \text{ of } x = -2 \end{array} \left. \vphantom{\begin{array}{l} x^2 + 10x + 16 = 0 \\ (x+8)(x+2) = 0 \\ x = -8 \text{ of } x = -2 \end{array}} \right\} \text{ontbinden}$$

$$x^2 - 10x = 0$$

$$x \cdot (x-10) = 0$$

$$x = 0, x = 10$$

$$x^2 + 6x - 16 = 0$$

$$(x+8)(x-2) = 0$$

$$x = -8, x = 2$$