

3.6 Lijnen met VU grafiek

bladzijde 100

- 70** a *
- b $y = \frac{1}{2}x + 4$. Door $(0, 2)$
- c een evenwijdige lijn
- d *

bladzijde 101

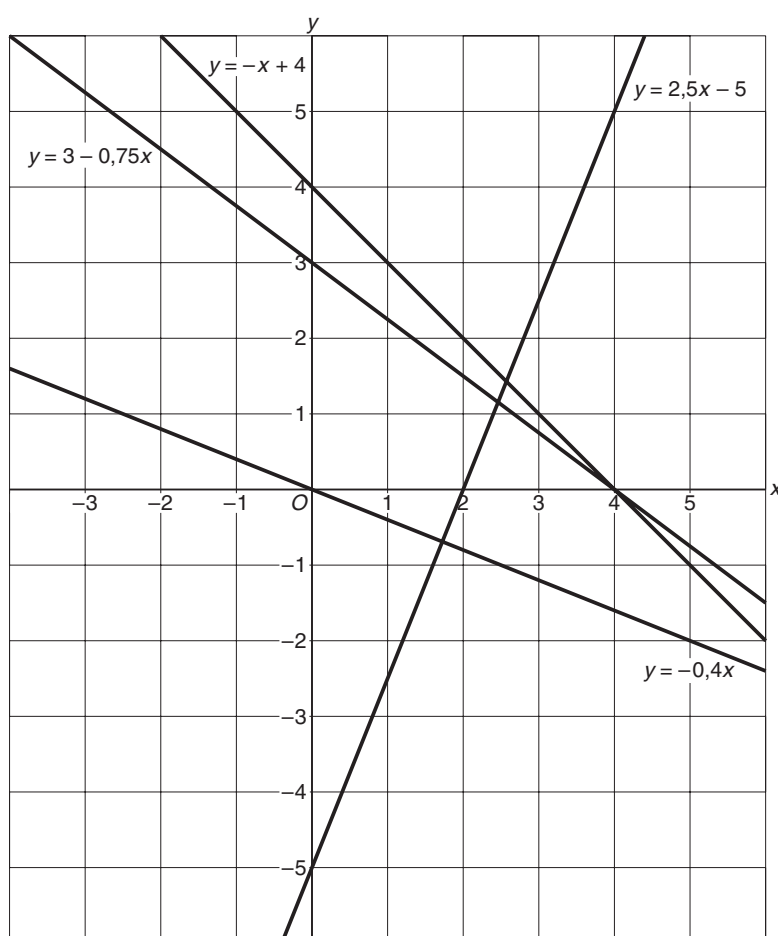
71 *

72 *

Diagnostische toets

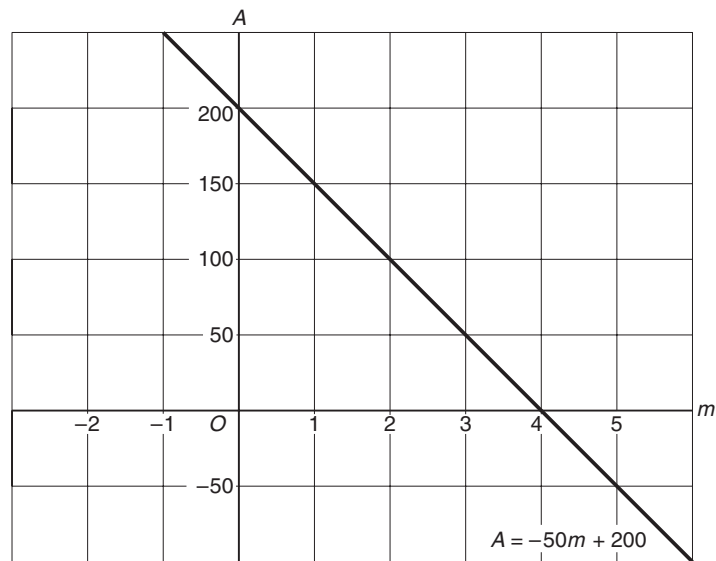
bladzijde 104

- 1** a
$$\begin{array}{l|l|l} x & 0 & 2 \\ \hline y & -5 & 0 \end{array}$$
- b
$$\begin{array}{l|l|l} x & 0 & 4 \\ \hline y & 4 & 0 \end{array}$$
- c
$$\begin{array}{l|l|l} x & 0 & 5 \\ \hline y & 0 & -2 \end{array}$$
- d
$$\begin{array}{l|l|l} x & 0 & 4 \\ \hline y & 3 & 0 \end{array}$$



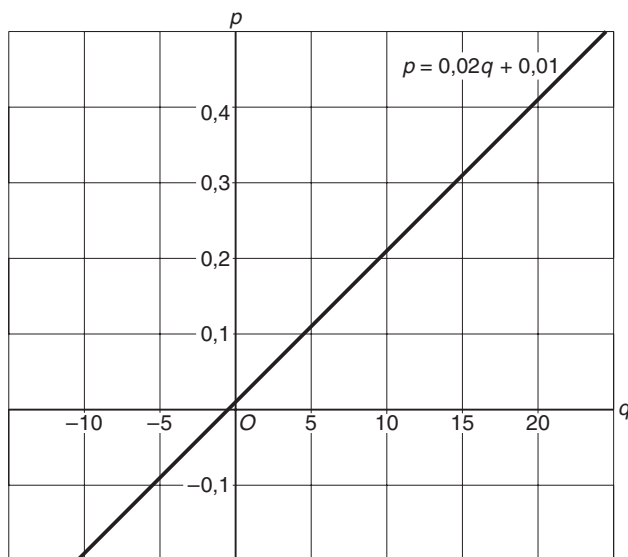
2 a

m	0	4
A	200	0



b

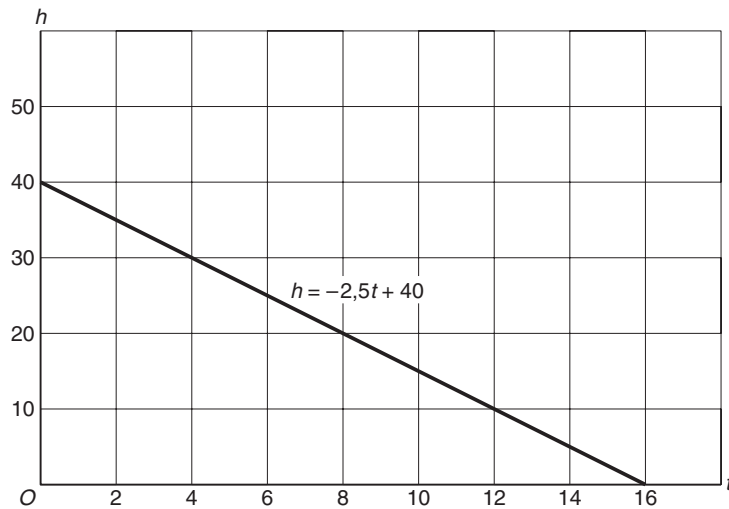
p	0	10	5	-5
q	0,01	0,21	0,11	-0,09



- 3** a $y = 2x - 7$ en $y = 2x + 2$
 b $y = 2x - 7$ en $y = \frac{2}{7}x - 7$ en $y = -2x - 7$

4 a

t	0	4
h	40	30



- b $h = -2,5 \cdot 1,5 + 40$
 $= 36,25$
 c 16 minuten
 d Hoeveel liter per minuut wegloopt.

- 5** k : Stel $y = ax + b$.
 Door $(0, 3)$, dus $b = 3$
 $a = \frac{\text{verticaal}}{\text{horizontaal}} = \frac{3}{1} = 3$
 Dus $k: y = 3x + 3$.

- l : Stel $y = ax + b$.
 Door $(0, 0)$, dus $b = 0$.
 $a = \frac{\text{verticaal}}{\text{horizontaal}} = \frac{3}{5}$
 Dus $l: y = \frac{3}{5}x$

- m : Stel $y = ax + b$.
 Door $(0, 2)$, dus $b = 2$
 $a = \frac{\text{verticaal}}{\text{horizontaal}} = \frac{-1}{2} = -0,5$
 Dus $m: y = -0,5x + 2$.

- 6** p : $R = r \cdot a + b$.
 Door $(0, 240)$, dus $b = 240$.
 $r = \frac{\text{verticaal}}{\text{horizontaal}} = \frac{-40}{10} = -4$
 Dus $p: R = -4a + 240$.

7 $k: y = 5x + 6$
 Stel: $l: y = 5x + b$.
 Door $A(8, -12)$, dus $-12 = 5 \cdot 8 + b$
 $-12 = 40 + b$
 $-52 = b$
 Dus $l: y = 5x - 52$

bladzijde 105

8 a Het bedrag per km is € 0,25.
 Het vaste bedrag is € 525.
 b $0,25a + 525 = 825$

$$\boxed{-525} \quad \boxed{-525}$$

$$0,25a = 300$$

$$\boxed{:0,25} \quad \boxed{:0,25}$$

$$a = 1200$$

Hij heeft 1200 km gereden in april.

c $k = 0,25a + 525 + 6$

$$k = 0,25a + 531$$

d $k = 0,29a + 531$

9 a $-2x - 6 = 16$

$$\boxed{+6} \quad \boxed{+6}$$

$$-2x = 22$$

$$\boxed{: -2} \quad \boxed{: -2}$$

$$x = -11$$

b $-x + 3 = 23$

$$\boxed{-3} \quad \boxed{-3}$$

$$-x = 20$$

$$\boxed{: -1} \quad \boxed{: -1}$$

$$x = -20$$

c $5x = 2$

$$\boxed{: 5} \quad \boxed{: 5}$$

$$x = \frac{2}{5}$$

d $5 + 3x = 26$

$$\boxed{-5} \quad \boxed{-5}$$

$$3x = 21$$

$$\boxed{: 3} \quad \boxed{: 3}$$

$$x = 7$$

e $-8x = 0$

$$\boxed{: -8} \quad \boxed{: -8}$$

$$x = 0$$

f $-x - 8 = 0$

$$\boxed{+8} \quad \boxed{+8}$$

$$-x = 8$$

$$\boxed{: -1} \quad \boxed{: -1}$$

$$x = -8$$

10 a $3x - 9 = 5x - 4$

$$\begin{array}{r} \boxed{-5x} \quad \boxed{-5x} \\ -2x - 9 = -4 \end{array}$$

$$-2x - 9 = -4$$

$$\begin{array}{r} \boxed{+9} \quad \boxed{+9} \\ -2x = 5 \end{array}$$

$$-2x = 5$$

$$\begin{array}{r} \boxed{: -2} \quad \boxed{: -2} \\ x = -2\frac{1}{2} \end{array}$$

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

b $5x - x = 3x - 2$

$$4x = 3x - 2$$

$$\begin{array}{r} \boxed{-3x} \quad \boxed{-3x} \\ x = -2 \end{array}$$

$$x = -2$$

c $4(x - 3) = -7x + 10$

$$4x - 12 = -7x + 10$$

$$\begin{array}{r} \boxed{+7x} \quad \boxed{+7x} \\ 11x - 12 = 10 \end{array}$$

$$11x - 12 = 10$$

$$\begin{array}{r} \boxed{+12} \quad \boxed{+12} \\ 11x = 22 \end{array}$$

$$11x = 22$$

$$\begin{array}{r} \boxed{: 11} \quad \boxed{: 11} \\ x = 2 \end{array}$$

$$x = 2$$

d $5 - (x - 3) = 6 - 2(x - 8)$

$$5 - x + 3 = 6 - 2x + 16$$

$$-x + 8 = -2x + 22$$

$$\begin{array}{r} \boxed{+2x} \quad \boxed{+2x} \\ x + 8 = 22 \end{array}$$

$$x + 8 = 22$$

$$\begin{array}{r} \boxed{-8} \quad \boxed{-8} \\ x = 14 \end{array}$$

$$x = 14$$

e $-5(a - 3) = 15(a - 7) + 2$

$$-5a + 15 = 15a - 105 + 2$$

$$-5a + 15 = 15a - 103$$

$$\begin{array}{r} \boxed{-15a} \quad \boxed{-15a} \\ -20a + 15 = -103 \end{array}$$

$$-20a + 15 = -103$$

$$\begin{array}{r} \boxed{-15} \quad \boxed{-15} \\ -20a = -118 \end{array}$$

$$-20a = -118$$

$$a = \frac{118}{20} = \frac{59}{10}$$

f $3(2p - 6) - 4(p - 8) = 5 - p$

$$6p - 18 - 4p + 32 = 5 - p$$

$$2p + 14 = 5 - p$$

$$\begin{array}{r} \boxed{+p} \quad \boxed{+p} \\ 3p + 14 = 5 \end{array}$$

$$3p + 14 = 5$$

$$\begin{array}{r} \boxed{-14} \quad \boxed{-14} \\ 3p = -9 \end{array}$$

$$3p = -9$$

$$\begin{array}{r} \boxed{: 3} \quad \boxed{: 3} \\ p = -3 \end{array}$$

$$p = -3$$

11 a $5(2a - 2) - 3a = -2(3a - 8)$

$$10a - 10 - 3a = -6a + 16$$

$$7a - 10 = -6a + 16$$

$$\begin{array}{r} \boxed{+6a} \quad \boxed{+6a} \\ 13a - 10 = 16 \end{array}$$

$$13a - 10 = 16$$

$$\begin{array}{r} \boxed{+10} \quad \boxed{+10} \\ 13a = 26 \end{array}$$

$$13a = 26$$

$$\begin{array}{r} \boxed{: 13} \quad \boxed{: 13} \\ a = 2 \end{array}$$

$$a = 2$$

b $3 - 5(8 - 4t) = -1 - 4t$

$$3 - 40 + 20t = -1 - 4t$$

$$-37 + 20t = -1 - 4t$$

$$\begin{array}{r} \boxed{+4t} \quad \boxed{+4t} \\ -37 + 24t = -1 \end{array}$$

$$-37 + 24t = -1$$

$$\begin{array}{r} \boxed{+37} \quad \boxed{+37} \\ 24t = 36 \end{array}$$

$$24t = 36$$

$$\begin{array}{r} \boxed{: 24} \quad \boxed{: 24} \\ t = 1\frac{1}{2} \end{array}$$

$$t = 1\frac{1}{2}$$

$$\begin{aligned}
 \text{c} \quad -\frac{2}{5}x + 8 &= \frac{1}{2}\left(x - \frac{1}{5}\right) - \frac{9}{10} \\
 10 \cdot -\frac{2}{5}x + 10 \cdot 8 &= 10 \cdot \frac{1}{2}\left(x - \frac{1}{5}\right) - 10 \cdot \frac{9}{10} \\
 -4x + 80 &= 5x - 1 - 9 \\
 -4x + 80 &= 5x - 10 \\
 \boxed{-5x} & \quad \boxed{-5x} \\
 -9x + 80 &= -10 \\
 \boxed{-80} & \quad \boxed{-80} \\
 -9x &= -90 \\
 \boxed{: -9} & \quad \boxed{: -9} \\
 x &= 10
 \end{aligned}$$

$$\begin{aligned}
 \text{d} \quad 1\frac{1}{4}x - \frac{1}{2} &= \frac{1}{8}(x + 5) - 9 \\
 8 \cdot 1\frac{1}{4}x - 8 \cdot \frac{1}{2} &= 8 \cdot \frac{1}{8}(x + 5) - 8 \cdot 9 \\
 10x - 4 &= x + 5 - 72 \\
 10x - 4 &= x - 67 \\
 \boxed{-x} & \quad \boxed{-x} \\
 9x - 4 &= -67 \\
 \boxed{+4} & \quad \boxed{+4} \\
 9x &= -63 \\
 \boxed{: 9} & \quad \boxed{: 9} \\
 x &= -7
 \end{aligned}$$

$$\begin{aligned}
 \text{12 a} \quad W &= 2 \cdot 40 + 0,5 \cdot 32 - 35 \\
 &= 80 + 16 - 35 \\
 &= 96 - 35 \\
 &= \text{€} 61
 \end{aligned}$$

$$\begin{aligned}
 \text{b} \quad 2 \cdot 37 + 0,5T - 35 &= 58 \\
 74 + 0,5T - 35 &= 58 \\
 0,5T + 39 &= 58
 \end{aligned}$$

$$\begin{aligned}
 \boxed{-39} & \quad \boxed{-39} \\
 0,5T &= 19 \\
 \boxed{: 0,5} & \quad \boxed{: 0,5} \\
 T &= 38
 \end{aligned}$$

Anne heeft dus 38 tijdschriften verkocht.

$$\begin{aligned}
 \text{13 a} \quad x + 18 &= 4(x - 48) \\
 \text{b} \quad x + 18 &= 4x - 192
 \end{aligned}$$

$$\begin{aligned}
 \boxed{-4x} & \quad \boxed{-4x} \\
 -3x + 18 &= -192 \\
 \boxed{-18} & \quad \boxed{-18} \\
 -3x &= -210 \\
 \boxed{: -3} & \quad \boxed{: -3} \\
 x &= 70
 \end{aligned}$$

Oom Bart is 70 jaar oud.