

Diagnostische toets

bladzijde 28

1 a aantal km = $8 - a$

b aantal km = $a + b$

c aantal minuten = $\frac{8}{x}$

2 a $5a + 3b - 2a - b = 3a + 2b$

b $3a^2 - 2b + a^2 + 8b = 4a^2 + 6b$

c $4a - b^2 + 5a + b^2 = 9a$

d $-p - 3q - p + 5p = 3p - 3q$

3 a $3a \cdot 2b + 5a \cdot -3b = 6ab - 15ab = -9ab$

b $2a \cdot 5a - 3a \cdot a = 10a^2 - 3a^2 = 7a^2$

c $5 \cdot 2p - 3 \cdot 4q = 10p - 12q$

d $5 + 2p - 3 - 4p = 2 - 2p$

4 Omtrek figuur = $4b + 3a + 3b + 2a + b + 5a = 10a + 8b$

Oppervlakte figuur = $3b \cdot 3a + 5a \cdot b = 9ab + 5ab = 14ab$

5 a $5(2a - 3b) + 4(a - 2b) = 10a - 15b + 4a - 8b = 14a - 23b$

b $8 - 3(2a - 6) + 5a + 7 = 8 - 6a + 18 + 5a + 7 = 33 - a$

c $-2(a - 3b) - (2a - b) = -2a + 6b - 2a + b = -4a + 7b$

d $5x(2x - 3y) - x(2x - 15y) = 10x^2 - 15xy - 2x^2 + 15xy = 8x^2$

6 a $(a + 4)(a + 5) = a^2 + 5a + 4a + 20 = a^2 + 9a + 20$

b $(a - 4)(a + 5) = a^2 + 5a - 4a - 20 = a^2 + a - 20$

c $(a - 5)^2 = (a - 5)(a - 5) = a^2 - 5a - 5a + 25 = a^2 - 10a + 25$

d $(a + 4)(a - 3) - 2(a - 6) = a^2 - 3a + 4a - 12 - 2a + 12 = a^2 - a$

e $a + 4(a - 3) - 2(a + 6) = a + 4a - 12 - 2a - 12 = 3a - 24$

f $(a - 7)^2 - a(a - 1) = (a - 7)(a - 7) - a(a - 1) = a^2 - 7a - 7a + 49 - a^2 + a = -13a + 49$

7 a $(a + 3b)(2a - b) = 2a^2 - ab + 6ab - 3b^2 = 2a^2 + 5ab - 3b^2$

b $(a - 5b)^2 = (a - 5b)(a - 5b) = a^2 - 5ab - 5ab + 25b^2 = a^2 - 10ab + 25b^2$

c $(x + 4y)^2 - x(x + 8y) = x^2 + 4xy + 4xy + 16y^2 - x^2 - 8xy = 16y^2$

d $6y(x - 8y) - (x^2 - y^2) = 6xy - 48y^2 - x^2 + y^2 = 6xy - 47y^2 - x^2$

bladzijde 29

8 a $(a - 9)(a + 9) = a^2 - 81$

b $(5a + 7)(5a - 7) = 25a^2 - 49$

c $(a + 12)^2 = a^2 + 24a + 144$

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

e $(3x + 7)^2 = 9x^2 + 42x + 49$

f $(3x - 5y)^2 = 9x^2 - 30xy + 25y^2$

- 9** a $5,316^{18} = 1,15 \cdot 10^{13}$
 b $5,28 - 21,3^{11} + 91,8^8 = 4,63 \cdot 10^{15}$
 c $0,93 \cdot 0,06^4 = 1,21 \cdot 10^{-5}$
 d $0,054^6 - 0,046^5 = -1,81 \cdot 10^{-7}$
- 10** a $3a^4 \cdot -5a^3 = -15a^7$
 b $3a^4 + 5a^4 = 8a^4$
 c $5a^{12} - a^{12} = 4a^{12}$
 d $2a^5 \cdot 3b^7 = 6a^5b^7$
 e $2a^5 + 3b^7 = \text{k.n.}$
 f $-2a^5 \cdot 3a^7 = -6a^{12}$
- 11** a $6a^5 \cdot 3a^3 + 2a^4 \cdot 5a^4 = 18a^8 + 10a^8 = 28a^8$
 b $8a^3 \cdot -a^2 - 4a^5 = -8a^5 - 4a^5 = -12a^5$
 c $(a^3 + 2)(2a^2 - 3) = 2a^5 - 3a^2 + 4a^2 - 6 = 2a^5 + a^2 - 6$
 d $a^2(3a^4 - 5) - 2a^3(3a^3 - 5) = 3a^6 - 5a^2 - 6a^6 + 10a^3 = -3a^6 - 5a^2 + 10a^3$
- 12** a $(a^5)^3 + 3a^{15} = a^{15} + 3a^{15} = 4a^{15}$
 b $(a^3)^6 \cdot 2a^5 = a^{18} \cdot 2a^5 = 2a^{23}$
 c $3(a^4)^3 - 5(a^2)^6 = 3a^{12} - 5a^{12} = -2a^{12}$
 d $(a^4)^2 \cdot 2(a^4)^2 - 2a^8 = a^8 \cdot 2a^8 - 2a^8 = 2a^{16} - 2a^8$
- 13** a $(5a)^3 = 125a^3$
 b $(-3x)^4 = 81x^4$
 c $-2(ab^3)^4 \cdot (a^4)^3 = -2a^4b^{12} \cdot a^{12} = -2a^{16}b^{12}$
 d $(-3x)^3 + 5x^3 = -27x^3 + 5x^3 = -22x^3$
- 14** a $-2(a^3)^2 - (3a^2)^3 = -2a^6 - 27a^6 = -29a^6$
 b $(pq^3)^4 \cdot (p^2q)^3 = p^4q^{12} \cdot p^6q^3 = p^{10}q^{15}$
 c $-3(a^4)^3 + (2a^4)^3 = -3a^{12} + 8a^{12} = 5a^{12}$
 d $(3a^5)^3 \cdot -2(a^4)^3 = 27a^{15} \cdot -2a^{12} = -54a^{27}$
- 15** a $\frac{x^{18}}{x^6} = x^{12}$
 b $\frac{8x^7}{x^7} = 8$
 c $\frac{15p^4q^8}{5pq^4} = 3p^3q^4$
 d $\frac{16(a^3)^4 + (3a^6)^2}{5a^3} = \frac{16a^{12} + 9a^{12}}{5a^3} = \frac{25a^{12}}{5a^3} = 5a^9$

Herhaling

bladzijde 30

- 1** a $x + 5$ jaar
 b $y - 8$ cm
 c $3a$ euro
 d $16 - c$ km