

80 a $(-3a^2)^3 \cdot (a^5)^3 = -27a^6 \cdot a^{15} = -27a^{21}$
 b $(-2a)^4 \cdot (3a^3)^2 = 16a^4 \cdot 9a^6 = 144a^{10}$
 c $(pq^2)^3 \cdot (p^3q)^2 = p^3q^6 \cdot p^6q^2 = p^9q^8$
 d $(6x^3)^2 + 3(x^2)^3 = 36x^6 + 3x^6 = 39x^6$
 e $-3(a^2)^4 \cdot (a^3b)^3 = -3a^8 \cdot a^9b^3 = -3a^{17}b^3$
 f $-3(a^3)^4 + (-2a^3)^4 = -3a^{12} + 16a^{12} = 13a^{12}$

81 a $(3xy)^2 + 5x^2y^2 = 9x^2y^2 + 5x^2y^2 = 14x^2y^2$
 b $(5a^3)^2 - (a^2)^3 = 25a^6 - a^6 = 24a^6$
 c $(5a^3)^2 \cdot (a^2)^3 = 25a^6 \cdot a^6 = 25a^{12}$
 d $3(2x^2y)^3 - (5xy)^3 = 3 \cdot (8x^6y^3) - 125x^3y^3 = 24x^6y^3 - 125x^3y^3$
 e $-5(x^4)^3 - (2x^6)^2 = -5x^{12} - 4x^{12} = -9x^{12}$
 f $(-5x^3)^4 \cdot (2x^4)^2 = 625x^{12} \cdot 4x^8 = 2500x^{20}$

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 $3a^2 - 2b + a^2 + 8b = 2a^2 + 6b$
 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 a = $4b + 3a + 3b + 2a + b + 5a = 10a + 8b$
 Oppervlakte figuur a = $3b \cdot 3a + 5a \cdot b = 9ab + 5ab = 14ab$
 Omtrek figuur b = $3x + 5y + 3x + 5y = 6x + 10y$
 Oppervlakte figuur b = $3x \cdot 5y = 15xy$

5 a $6(x + 3) = 6x + 18$
 b $-2(3x - 5) = -6x + 10$
 c $4a(a + 7) - a^2 = 4a^2 + 28a - a^2 = 3a^2 + 28a$
 d $-p(p - 11) - 4p = -p^2 + 11p - 4p = -p^2 + 7p$

6 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 $5x(2x - 3y) - x(2x - 15y) = 10x^2 - 15xy - 2x^2 + 15xy = 8x^2$

- 7** 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 $(a-7)^2 - a(a-1) = (a-7)(a-7) - a(a-1) = a^2 - 7a - 7a + 49 - a^2 + a = -13a + 49$
- 8** 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 $6y(x-8y) - (x^2 - y^2) = 6xy - 48y^2 - x^2 + y^2 = 6xy - 47y^2 - x^2$
- 9** a $5,316^{18} = 1,5 \cdot 10^{13}$
 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 $2a^5 \cdot 3b^7 = 6a^{12}$
 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 $-2a^4 \cdot (a^4)^3 = -2a^4 \cdot a^{12} = -2a^{16}$
 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 $(3a^5)^3 \cdot -2(a^4)^3 = 27a^{15} \cdot -2a^{12} = -54a^{27}$