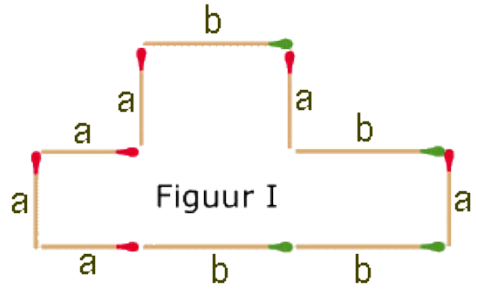
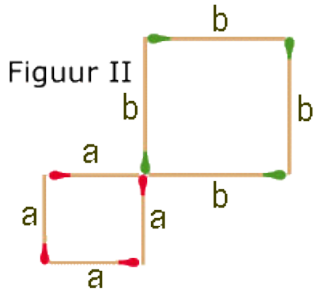
Basisvaardigheden algebra klas 2 – antwoorden

Opdracht 1



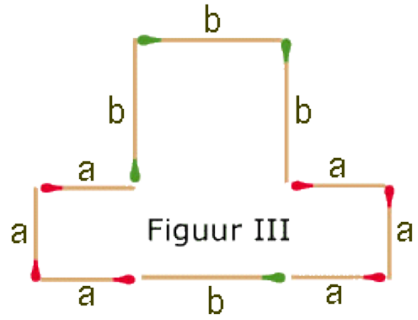
De omtrek is: $6a + 4b$

De oppervlakte is: $a^2 + 3ab$



De omtrek is: $4a + 4b$

De oppervlakte is: $a^2 + b^2$



De omtrek is: $6a + 4b$

De oppervlakte is: $2a^2 + ab + b^2$

Opdracht 2

a. $\dfrac{3a^3b^2}{2ab^2} = \dfrac{3a^2}{2}$

b. $\dfrac{b}{4a} \cdot \dfrac{2a^2}{3b} = \dfrac{2a^2b}{12ab} = \dfrac{a}{6}$

c. $\dfrac{3a^7 \cdot 6a^6}{9a^4} = \dfrac{18a^{13}}{9a^4} = 2a^9$

d. $\dfrac{2a}{4ab} \cdot \dfrac{6ab}{3} = \dfrac{12a^2b}{12ab} = a$

e. $\dfrac{15ab}{3a} - \dfrac{12b^2}{4b} = 5b - 3b = 2b$

f. $\dfrac{9a^2b^3c^4}{3abc} = 3ab^2c^3$

g. $\dfrac{a+1}{a} - \dfrac{1}{a} = \dfrac{a+1-1}{a} = \dfrac{a}{a} = 1$

h. $x + \dfrac{xy}{y} + \dfrac{xy^2}{y^2} = x + x + x = 3x$

Opdracht 3

a. $8(h+8)-17 = 8h+64-17 = 8h+47$

b. $-\frac{1}{4}\ 12q+28\ +7 = -3q-7+7 = -3q$

c. $4k-6\left(\frac{1}{2}k-3\right) = 4k-3k+18 = k+18$

d. $6(a+2b)+2a = 6a+12b+2a = 8a+12b$

e. $a\ 2a+c\ +a(3b-2c) = 2a^2+ac+3ab-2ac = 2a^2-ac+3ab$

f. $-(3p-5q)+(p+q)^2 = -3p+5q+p^2+2pq+q^2$

g. $x-y\ ^2+4xy = x^2-2xy+y^2+4xy = x^2+2xy+y^2$

h. $(a-3)(a+5)-a^2-3 = a^2+2a-15-a^2-3 = 2a-18$

i. $(3x+y)^2+(3x-y)^2 = 9x^2+6xy+y^2+9x^2-6xy+y^2 = 18x^2+2y^2$

Opdracht 4

a. $2p^6 \cdot 3p^8 = 6p^{14}$

b. $7x^2 \cdot (-x)^7 = -7x^9$

c. $-3a\ ^2 \cdot\ -2a\ ^3 = 9a^2 \cdot -8a^3 = -72a^5$

d. $3a^2b^3\ ^2 = 9a^4b^6$

e. $-abc\ ^4 \cdot\ abc\ ^4 = 2a^4b^4c^4$

f. $3x^2y^4 \cdot 2xy^5\ ^2 = \ 6x^3y^9\ ^2 = 36x^6y^{18}$

g. $\frac{2p\ ^2}{p^2} = \frac{4p^2}{p^2} = 4$

h. $\frac{4a^2b}{2ab\ ^2} = \frac{4a^2b}{4a^2b^2} = \frac{1}{b}$

i. $\frac{-pq^2\ ^3}{pq\ ^2} = \frac{-p^3q^6}{p^2q^2} = -pq^4$