

## Antwoorden Toets je kennis §1.5 t/m 2.3

### Theorie

$2^3 \cdot 2^4 = 2^{3+4} = 2^7$	$2^7 \cdot 3^7 = (2 \cdot 3)^7 = 6^7$	$(2^3)^2 = 2^{3 \cdot 2} = 2^6$
$5^7 : 5^3 = 5^{7-3} = 5^4$	$\frac{12^4}{3^4} = \left(\frac{12}{3}\right)^4 = 4^4$	
$(-5)^4 = 5^4$	even exponent	$((-5)^4)^5 = (-5)^{20} = 5^{20}$
$(-5)^5 = -5^5$	oneven exponent	$((-5)^3)^7 = (-5)^{21} = -5^{21}$

**1.5 a.**  $(28^8)^4 = 28^{8 \cdot 4} = 28^{32}$

**b.**  $(45^{10})^6 = 45^{10 \cdot 6} = 45^{60}$

**1.6 a.**  $(-5^2)^3 = -5^{2 \cdot 3} = -5^6$

**d.**  $((-3)^2)^5 = (-3)^{2 \cdot 5} = (-3)^{10} = 3^{10}$

**b.**  $(-5^3)^2 = 5^{3 \cdot 2} = 5^6$

**e.**  $((-7)^5)^7 = (-7)^{5 \cdot 7} = (-7)^{35} = -7^{35}$

**c.**  $((-3)^5)^2 = (-3)^{5 \cdot 2} = (-3)^{10} = 3^{10}$

**f.**  $((-7)^5)^6 = (-7)^{5 \cdot 6} = (-7)^{30} = 7^{30}$

**1.7 a.**  $8^{20} = \frac{8^{30}}{8^{10}}$

**c.**  $(3 \cdot 3)^4 = 9^4 = (9^2)^2 = 81^2$

**b.**  $17^{14} = (17^2)^7$

**d.**  $x^2 \cdot x^{13} = x^{15}$

**1.8 a.**  $4^{12} \cdot (-12)^{12} = 4 \cdot 12^{12} = 48^{12}$

**b.**  $-4^5 \cdot (-12)^5 = -4^5 \cdot -12^5 = 48^5$

**c.**  $\frac{24^3}{(-12)^3} = \frac{24^3}{-12^3} = -2^3$

**Z.O.Z**

**2.1 a.**  $11 \cdot b \cdot 15 \cdot a \cdot c = 165abc$

**b.**  $5 \cdot p \cdot 4 \cdot k \cdot p \cdot p = 20kp^3$

**c.**  $-12 \cdot x \cdot 3 \cdot y \cdot x \cdot x = -36x^3y$

**d.**  $9x \cdot x \cdot y \cdot x \cdot y \cdot 8 \cdot z = 72x^3y^2z$

**2.2 a.**  $-7a \cdot a \cdot c \cdot -17b = 119a^2bc$

**b.**  $-3x^2 \cdot y \cdot x \cdot 5z = -15x^3yz$

**c.**  $-5 \cdot pq \cdot -2 \cdot q = 10pq^2$

**2.3 a.**  $3a^2 \cdot 4b^2 \cdot a^4 \cdot b = 12a^6b^3$

**b.**  $-6x^3 \cdot (-2x^5) = 12x^8$

**c.**  $-6 \cdot (-x)^3 \cdot (-2x^5)^2 = 96x^3 \cdot 4 \cdot x^{10} = 4 \cdot 6 \cdot x^3 \cdot x^{10} = 24x^{3+10} = 24x^{13}$