

1. Berechne und gib das Resultat so einfach wie möglich an.

a) $a^1 = \underline{\underline{a}}$

b) $a^4 \cdot a^0 = \underline{\underline{a^4}}$

c) $e^8 \cdot e^9 = \underline{\underline{e^{17}}}$

d) $e^4 : e^3 = \underline{\underline{e}}$

e) $a^3 : b^3 = \underline{\underline{(a:b)^3}}$

f) $c^3 + c^3 = \underline{\underline{2c^3}}$

g) $7x^3 \cdot 4x^3 = \underline{\underline{28x^6}}$

h) $2a^2 + 3b^3 = \underline{\underline{2a^2 + 3b^3}}$

i) $2a^3 + a^4 = \underline{\underline{2a^3 + a^4}}$

j) $2a^3 \cdot a^4 = \underline{\underline{2a^7}}$

k) $3c^5 + 2d^5 = \underline{\underline{3c^5 + 2d^5}}$

l) $3c^5 \cdot 2d^5 = \underline{\underline{6c^5d^5}}$

m) $3e^3 + 4e^3 = \underline{\underline{7e^3}}$

n) $3e^3 \cdot 4e^3 = \underline{\underline{12e^6}}$

o) $e \cdot e^{18} = \underline{\underline{e^{19}}}$

p) $18^1 \cdot 18^3 = \underline{\underline{18^4}} (= 104'976)$

q) $f^4 \cdot f^0 = \underline{\underline{f^4}}$

r) $2^4 : 2^2 = 2^2 = \underline{\underline{4}}$

s) $a^8 : a^3 = \underline{\underline{a^5}}$

t) $3^3 \cdot 7^3 = \underline{\underline{21^3}} (= 9'261)$

u) $15^2 : 3^2 = \underline{\underline{5^2}} (= 25)$

v) $a^4 \cdot a^0 = \underline{\underline{a^4}}$

w) $e^8 \cdot e^9 = \underline{\underline{e^{17}}}$

x) $e^4 : e^3 = \underline{\underline{e}}$

y) $e^0 = \underline{\underline{1}}$

z) $a^3 : b^3 = \underline{\underline{(a:b)^3}}$

2. Schreibe folgende Produkte als Potenzen.

a) $4 \cdot 4 \cdot 4 = \underline{\underline{4^3}}$

b) $7 \cdot 7 \cdot 7 \cdot 7 = \underline{\underline{7^4}}$

c) $b \cdot b \cdot b \cdot b \cdot b = \underline{\underline{b^5}}$

d) $(e + f)(e + f) = \underline{\underline{(e + f)^2}}$

e) $(a - 2)(a - 2)(a - 2) = \underline{\underline{(a - 2)^3}}$

f) $7c \cdot 7c \cdot 7c \cdot 7c = \underline{\underline{2401c^4}}$

g) $3 \cdot 3 \cdot 3 \cdot b \cdot b \cdot b = \underline{\underline{27b^3}}$

h) $a \cdot a \cdot b \cdot b \cdot c \cdot c = \underline{\underline{a^2b^2c^2}}$

i) $5d \cdot 5d \cdot 5d \cdot 5d \cdot 5d = \underline{\underline{3125d^5}}$

j) $(a + b)(a + b)(c + d)(c + d) = \underline{\underline{(a + b)^2(c + d)^2}}$

k) $a \cdot a \cdot a(a - c)(a - c) = \underline{\underline{a^3(a - c)^2}}$

l) $(x + y)(x - y)(x + y)(x - y) = \underline{\underline{(x + y)^2(x - y)^2}}$

3. Berechne und gib das Resultat so einfach wie möglich an.

a) $x \cdot 4x^2 = \underline{\underline{4x^3}}$

b) $4c \cdot 5c^2 = \underline{\underline{20c^3}}$

c) $12ab^2 \cdot 16a^2b = \underline{\underline{192a^3b^3}}$

d) $36a^2bc^3 \cdot 36a^3b^2c = \underline{\underline{1296a^5b^3c^4}}$

e) $z \cdot 5z^3 = \underline{\underline{5z^4}}$

f) $2a \cdot 10a^2 = \underline{\underline{20a^3}}$

g) $15xy^2 \cdot 22x^2y = \underline{\underline{330x^3y^3}}$

h) $27r^2st^3 \cdot 27r^3s^2t = \underline{\underline{729r^5s^3t^4}}$

i) $4a^2 : a^2 = \underline{\underline{4}}$

j) $12x^2y : 2xy = \underline{\underline{6x}}$

k) $25a^2b^3c : 5ab^2 = \underline{\underline{5abc}}$

l) $15a^4b^4 : 3ab^4 = \underline{\underline{5a^3}}$

m) $8b^2 : b^2 = \underline{\underline{8}}$

n) $16a^2b : 4a^2 = \underline{\underline{4b}}$

o) $72e^4g^5h^3 : 12e^2g^3h^2 = \underline{\underline{6e^2g^2h}}$

p) $21x^3y^4 : 7xy^4 = \underline{\underline{3x^2}}$