

OPERATIONS WITH POWERS I

- Multiplication of powers with the same base

$$\underline{3}^3 \times \underline{3}^4 = \underline{3}^{3+4}$$

Exercise 1. - Multiply these powers and express the result as an only power:

a) $5^4 \cdot 5^2 =$

d) $10 \cdot 10^2 =$

g) $a^8 \cdot a^2 \cdot a =$

b) $2^{12} \cdot 2^3 =$

e) $x^3 \cdot x^2 =$

h) $b \cdot b =$

c) $6^2 \cdot 6^5 \cdot 6 =$

f) $m^6 \cdot m^3 =$

i) $9^2 \cdot 9^7 =$

- Division of powers with the same base

$$5^{20} \div 5^{17} = 5^{20-17} = 5^3$$

Exercise 2. - Divide these powers and express the result as an only power:

a) $5^4 : 5^2 =$

d) $3^9 : 3^3 =$

g) $x^7 : x^2 =$

b) $10^6 : 10^3 =$

e) $a^3 : a^2 =$

h) $m^2 : m^2 =$

c) $5^8 : (5^6 : 5^4) =$

f) $(5^5 \cdot 5^3) : 5^7 =$

- Power of a powers

$$(7^3)^4 = 7^{3 \cdot 4} = 7^{12}$$

a) $(3^2)^4 =$

c) $(10^5)^3 =$

e) $(9^6)^2 =$

b) $(x^5)^2 =$

d) $[(2^3)^2]^5 =$

f) $[(a^2)^4]^2 =$