

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

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

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