

1-4

# Powers of monomials

$$(5^2)^3$$

$$5^{2 \cdot 3}$$

$$5^6$$

Law of exponents:  
\* to find the power of a power, MULTIPLY

$$5^2 \cdot 5^2 \cdot 5^2 = 5^{2+2+2} = 5^6$$

ex:

$$(7^3)^6$$

$$7^{3 \cdot 6}$$

$$7^{18}$$

$$(a^m)^n$$

$$a^{m \cdot n}$$

$$a^{mn}$$

Law of exponents: to find the power of a product, find the power of each factor & multiply

$$(6x^2)^3$$

$$(6x^2)^3$$

\*) distribute

$$6^3 x^6$$

the power to all factors.

$$(4p^2x^5)^2$$

$$4^{2 \cdot 1} p^{2 \cdot 2} x^{5 \cdot 2}$$

$$4^2 p^4 x^{10}$$