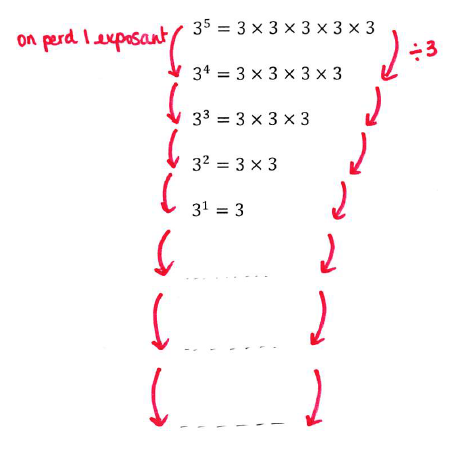
**EXPOSANTS**

REMINDER: An exponent is a shortened way to represent repeated multiplication.

Examples:

  In Grade 9, you manipulated natural exponents.

EXPLORATION: While analysing repeated multiplications, we could define other exponents to keep the regurity…



Note : Notice that 30=1, this is true for any base that is not zero…

Definition : For all whole positive numbers *n,* we have

This rule is true for any other base (not zero).

Examples : a) b) c)

This rule has many interesting consequences: 

* (to change the sign of an exponent, take the reciprocal of the number!)
*    
    
  (if you want to switch the numerator and denominator, you need to change the sign of the exponent)

Examples: Simplify only using positive exponents and evaluate only if possible.

  a) b)

  c) d)

  e)

Hwk : p 233 # 3 – 8 , 10, 16

LAW OF EXPONENTS (Reminders):

*What simplifies well...*

* Multiplying powers that have the same base:   
    
  indeed:
* Dividing powers that have the same base:    
    
  indeed:
* If a power has another exponent:   
    
  indeed:
* If a product has an exponent:

indeed:

All of these rules continue to work the same with negative or positive exponents...

***What does not simplify****… too bad...*

Adding and subtracting powers that have the same base:

Multiplying powers that don’t have the same base :

If a sum has an exponent: 

Examples:    
   
a)

 b)

 c)

d)

e)

f)

g)

h)

i)

Hwk : p 241 # 3 – 11, 14 – 17 , 19, 21, 22

Review : worksheet + p 247 # - 24, 28 – 30 , 32 + p 249 # 6, 7 + p 253 # 25, 26