**Multiplying Exponents**

What happens when we multiply exponents? For example what is the result of ? Find the answer and put it back into exponential form.

Another way of thinking of this is in an equation , what value of x makes this statement true?

Can you find a rule for any combination of powers of 2? Can that rule work for any base number? If so finish the equation

**Dividing Exponents**

What happens when we divide exponents? For example what is the result of ? Find the answer and put it back into exponential form.

Another way of thinking of this is in an equation , what value of x makes this statement true?

Can you find a rule for any combination of powers of 2? Can that rule work for any base number? If so finish the equation

**Exponentiating Exponents**

What happens when we exponentiate exponents? For example what is the result of ? Find the answer and put it back into exponential form.

Another way of thinking of this is in an equation , what value of x makes this statement true?

Can you find a rule for any combination of powers of 2? Can that rule work for any base number? If so finish the equation

**Challenge: What is x0?**

What is the value of ? of ? of ? What is the value of any number divided by itself?

If you apply the common-base rule dealing with exponents and division, should equal 5 raised to what power? and should equal c raised to what power? It therefore makes sense to define to be what?