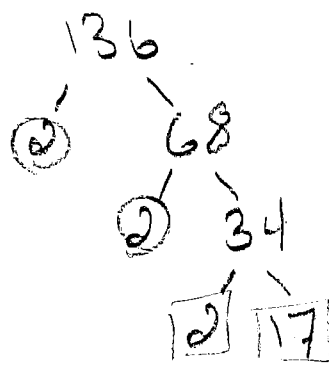
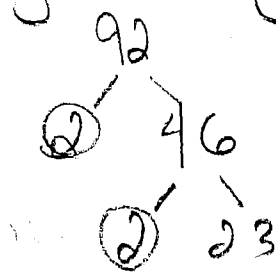


§42 GCF & LCM

ex Find the greatest common factor of 92 and 136

We'll start by trying to find the prime factors of each number by building a factor tree for each.



Since both are even lets pull out as many twos as we can first.

Notice that 17 and 23 are prime.

So we have our prime factorizations of 92 & 136. Now we examine which prime factors are shared. It looks like 2×2 so 4 is the greatest common factor.

ex Find the least common multiple of 92 and 136.

Since we already have the factor tree we can identify the prime factors in 136 that are missing in the prime factors of 92. They are squared 17 and 23.

Note although 2 is a factor of 92, we actually need 2^3 to be a factor as it is for 136, so we do need that third 2.

The least common multiple is thus

$$2 \times 2 \times 2 \times 3 \times 17 \times 23 = 3128$$