Example of converting from base ten to base 4…

To convert 61 base 10 to base 4....

Divide 61 by 4.  It goes into 59--- 15 times with a remainder of          1

Now divide 15 by 4.  It goes into 14--- 3 times with a remainder of     3

Now divide 3 by 4.  It goes into 3--- 0 times with a remainder of        3

Now read the remainders from top to bottom. 60 base 10 is equal to 133 base 4.

Let’s check it…

 1 times 1 = 1

+ 3 times 4 = 12

+ 3 times 4^2 = 48

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 61