Express 135 as a product of prime factors in the form $2^{a} \times 3^{b} \times 5^{c} \times 7^{d}$. What are the values $a, b, c$ and $d$ ?

The pattern shows a matchstick sequence:

a) How many matchsticks will be in the $13^{\text {th }}$ pattern?
a) Express the perimeter in terms of $b$.
b) If the
perimeter is 13 cm .
Find the value of $b$.


## Expand:

a) $(2 x-1)(2 x-1)$

Factorise:
b) $(30 y+24)$

Solve: $10 x-2=4 x+1$

Find the value of $x$ and $y$


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