

Express 90 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:



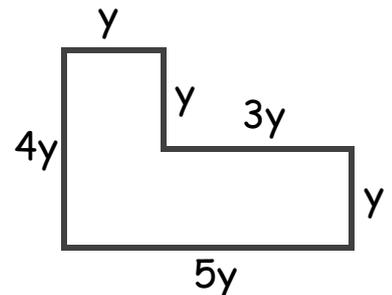
a) How many matchsticks will be in the 17<sup>th</sup> pattern?

**SIMPLIFY:**

A)  $7P^3 \times 2P^4$

B)  $\frac{4P^6 \times 2P^2}{2P^3}$

a) Express the perimeter in terms of y.



b) If the perimeter is 45cm. Find the value of y.

There are 3 different trains running to London. One train leaves every 15 minutes, another leaves every 20 minutes, and the last one leaves every 45 minutes. They first leave at 6:15. What Time do they all leave again at the same time?

**Expand:**

a)  $(2x + 1)(3x + 5)$

**Factorise:**

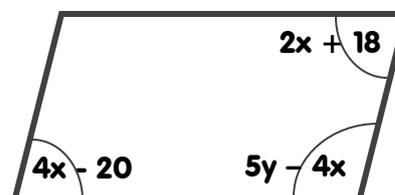
b)  $(24x + 18)$

**A lunch at a market costs £9.50 per person. A stand sells 143 lunches. The stand costs them £225. Estimate how much profit they will earn.**

Solve:  $16x - 4 = 9x + 10$

**Calculate  $2.25 \times 1.9$**

**Find the value of x and y**



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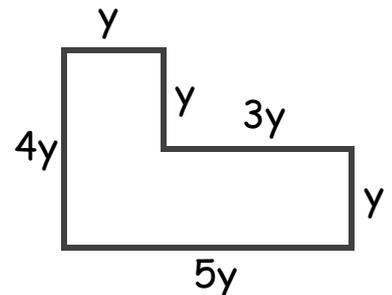
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