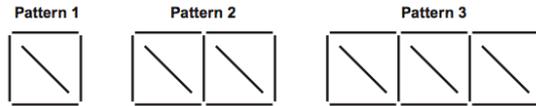


Express 420 as a product of prime factors in the form $2^a \times 3^b \times 5^c \times 7^d$. What are the values a, b, c and d?

The pattern shows a sequence made from sticks:



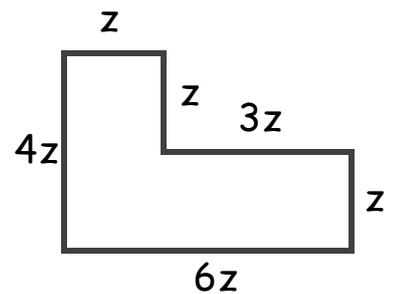
- What is the nth term?
- How many sticks will be in the 9th pattern?

SIMPLIFY:

A) $3P^4 \times 5P^0$

B) $\frac{3P^0 \times 4P^6}{6P^3}$

- Express the perimeter in terms of z.



- If the perimeter is 8cm. Find the value of z.

James, Harry and Alice are training for a marathon. It takes James 25 minutes, Harry 45 minutes, and Alice 15 minutes to complete a circuit. They all start at 9am. When will they cross the finish line at the same time?

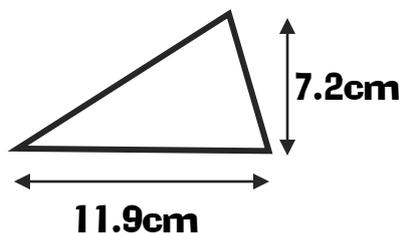
Expand:

a) $(4x + 2)^2$

Factorise:

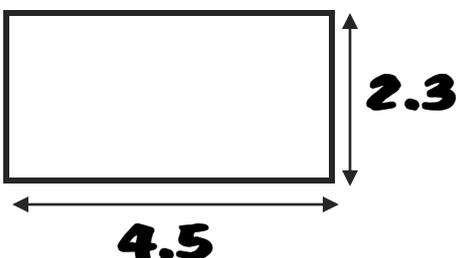
b) $(32y^2 + 20y)$

Estimate the area of the following triangle.

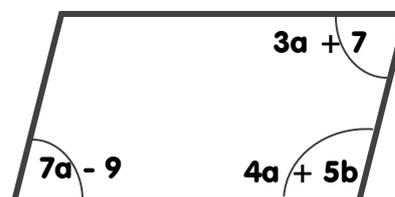


Solve: $8x - 2 = 6x - 1$

Calculate the area

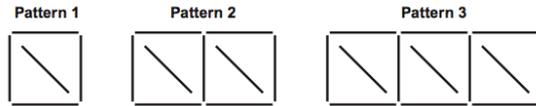


Find the value of a and b



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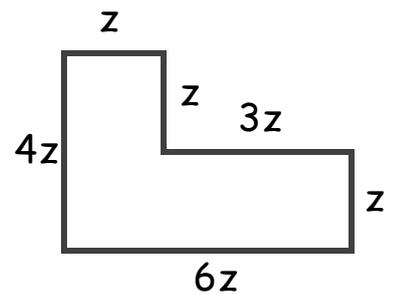
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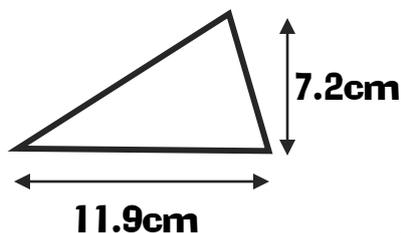
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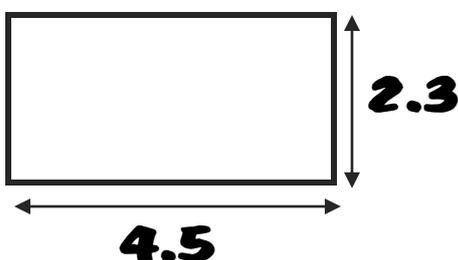
b) $(32y^2 + 20y)$

Estimate the area of the following triangle.



Solve: $8x - 2 = 6x - 1$

Calculate the area



Find the value of a and b

