



Starter

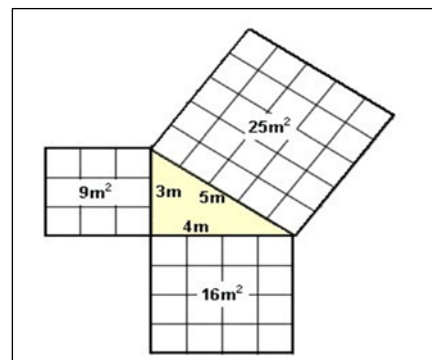
- 1) $8^2 =$
- 2) $30^2 =$
- 3) $\sqrt{36} =$
- 4) $\sqrt{225} =$

Top Tips!

Learn: $c^2 = a^2 + b^2$

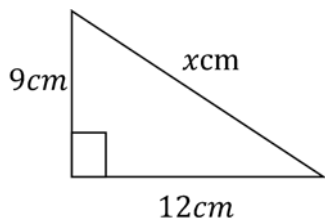
Where c is the hypotenuse
(opposite the right angle)

e. e. $5^2 = 3^2 + 4^2$

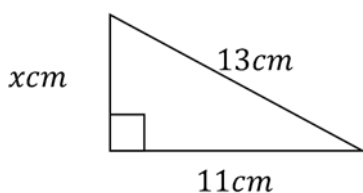


Skills:

1. Calculate the value of x



2. Calculate the value of x to 1 decimal place



Examination Question:

Derek wants to have a rectangular metal gate made for his driveway. The gate must be 2.8m wide and 1.5m high. The gate is made using 7 thin metal rods. The four horizontal rods are parallel. The diagonal rod ensures the gate remains strong. Derek draws a sketch of his design. Calculate the total length of the 7 rods



(diagram not drawn to scale)

Assessment for Learning

Video / QR code





Starter

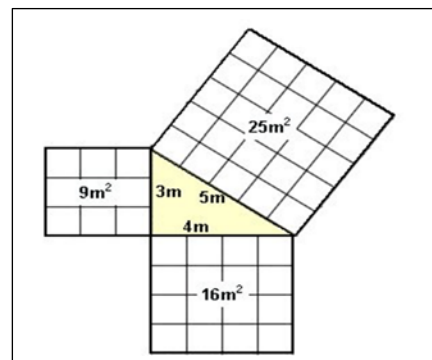
- 1) $8^2 = 64$
- 2) $30^2 = 900$
- 3) $\sqrt{36} = 6$
- 4) $\sqrt{225} = 15$

Top Tips!

Learn: $c^2 = a^2 + b^2$

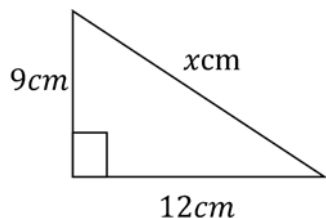
Where c is the hypotenuse
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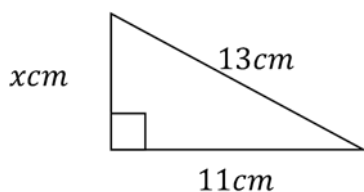
Skills:

1. Calculate the value of x



$$\begin{aligned}
 h^2 &= a^2 + b^2 \\
 x^2 &= 9^2 + 12^2 \\
 x^2 &= 81 + 144 \\
 x^2 &= 225 \\
 x &= \sqrt{225} = 15\text{cm}
 \end{aligned}$$

2. Calculate the value of x to 1 decimal place:



$$\begin{aligned}
 13^2 &= 11^2 + x^2 \\
 169 &= 121 + x^2 \\
 x^2 &= 169 - 121 \\
 x &= \sqrt{48} = 6.9\text{cm}
 \end{aligned}$$

Examination Question:

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(diagram not drawn to scale)

$$\begin{aligned}
 h^2 &= a^2 + b^2 \\
 h^2 &= 2.8^2 + 1.5^2 \\
 h^2 &= 7.84 + 2.25 \\
 h^2 &= 10.09 \\
 h &= \sqrt{10.09} = 3.2\text{cm}
 \end{aligned}$$

$$\begin{aligned}
 \text{Total lengths} &= (2.8 \times 4) + (1.5 \times 2) + 3.2 \\
 &= 17.4\text{m}
 \end{aligned}$$

Assessment for Learning

Video / QR code



