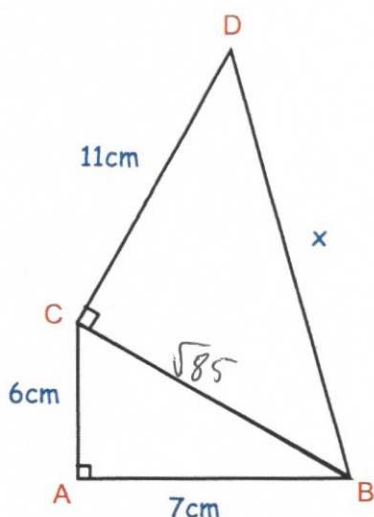


22nd March



Corbettmaths



Find the length of BD

$$11^2 + \sqrt{85}^2 = x^2$$

$$121 + 85 = x^2$$

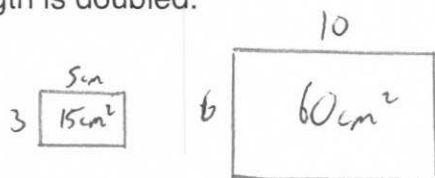
$$x = \sqrt{206} \text{ or } 14.353$$

Find the area of triangle BCD.

$$\frac{1}{2} \times \sqrt{85} \times 11$$

$$= 50.7075 \text{ cm}^2$$

Explain why the area of a rectangle increases by a factor of 4 when the side length is doubled.

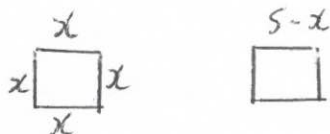


As both sides are twice as large, the area will be 4 times larger.

$$a \times b = ab$$

$$2a \times 2b = 4ab$$

A wire of length 20cm is cut into **two** pieces, each of which is bent into a square.



If the length of the side of one square is x cm, show that the length of the side of the other square is (5 - x) cm.

$$\frac{20 - 4x}{4} = 5 - x$$

The **total** area of the two squares is 14.5cm².

Find the lengths of the two pieces of wire.

$$x^2 + (5-x)^2 = 14.5$$

$$x^2 + (5-x)(5-x) = 14.5$$

$$x^2 + 25 - 10x + x^2 = 14.5$$

$$2x^2 - 10x + 10.5 = 0$$

$$4x^2 - 20x + 21 = 0$$

$$(2x-3)(2x-7) = 0$$

$$x = 1.5 \quad x = 3.5$$

6cm & 14cm.