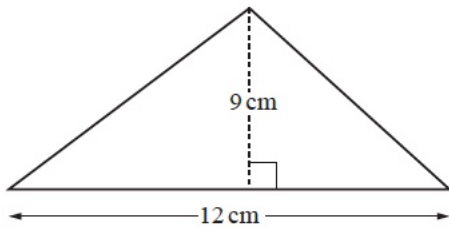


Problem 0580/42/F/M/23 Q8

(a)



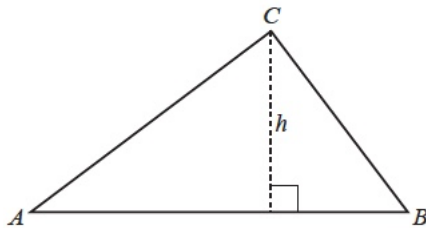
NOT TO SCALE

Calculate the area of the triangle.

$$\frac{1}{2} \times 12 \times 9$$

..... 54 cm² [2]

(b)



NOT TO SCALE

$AB = (2x+3)$ cm and $h = (x+5)$ cm.

The area of triangle $ABC = 50$ cm².

Find the value of x , giving your answer correct to 2 decimal places.

You must show all your working.

$$50 = \frac{1}{2} (2x+3)(x+5)$$

$$100 = 2x^2 + 10x + 3x + 15$$

$$0 = 2x^2 + 13x - 85$$

$$x = \frac{-13 \pm \sqrt{(13)^2 + 4 \times 2 \times 85}}{2 \times 2}$$

$$x = 4.03 \quad x = -10.5$$

$x =$ 4.03 [6]