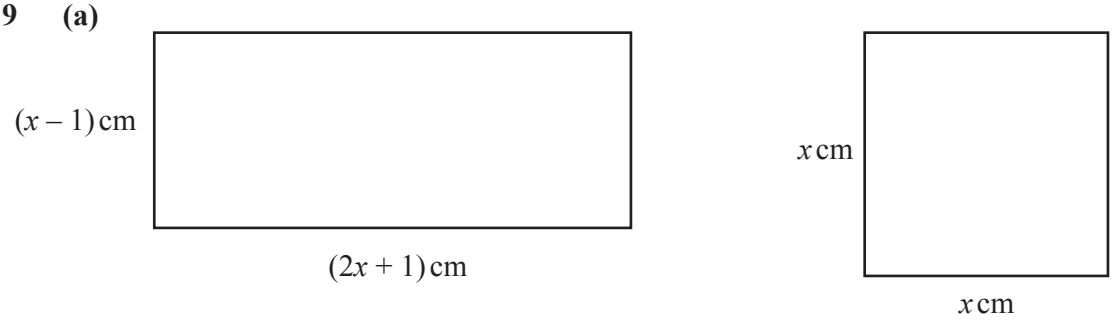
9 (a)

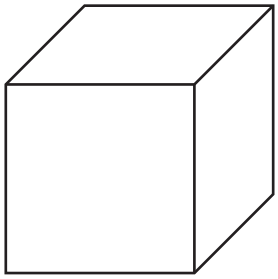


The area of the rectangle is $29\,cm^2$ greater than the area of the square.
The difference between the perimeters of the two shapes is k cm.

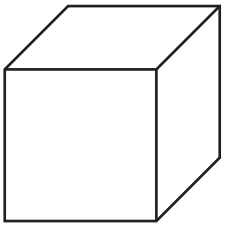
Find the value of k.
You must show all your working.

$k =$ ..... [6]

(b)



$(y + 1)$ cm



y cm

NOT TO SCALE

The volume of the larger cube is $5\,\text{cm}^3$ greater than the volume of the smaller cube.

(i) Show that $3y^2 + 3y - 4 = 0$.

[4]

(ii) Find the volume of the smaller cube.
Show all your working and give your answer correct to 2 decimal places.

..... cm^3 [4]

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