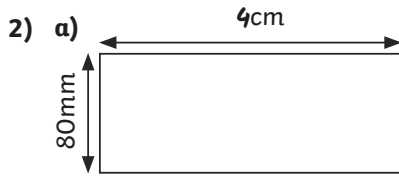
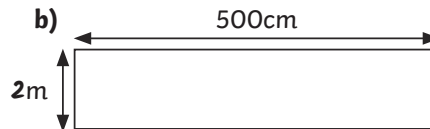




- 1) a)  $Perimeter = 52cm$   $Area = 153cm^2$   
 b)  $Perimeter = 21m$   $Area = 27 m^2$   
 c)  $Perimeter = 56cm$   $Area = 116.2cm^2$



Perimeter =  $24cm$   
 Area =  $32cm^2$



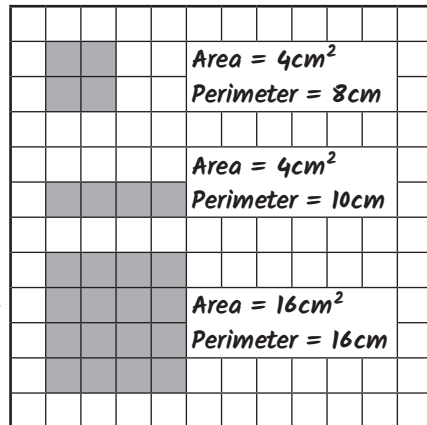
Perimeter =  $14m$   
 Area =  $10m^2$

- 1) Alice's statement is true. A  $2cm \times 2cm$  square will give an area of  $4cm^2$  and a perimeter of  $8cm$ . A  $1cm \times 4cm$  rectangle will give an area of  $4cm^2$  and a perimeter of  $10cm$ . Shapes with different dimensions are also possible.



Oliver's statement is true. A  $4cm \times 4cm$  square will give an area of  $16cm^2$  and a perimeter of  $16cm$ . Another solution is a  $6cm \times 3cm$  rectangle which will give an area of  $18 cm^2$  and a perimeter of  $18cm$ .

Alice's shape



Alice's shape

Oliver's shape

- 2) a) Ben is partly correct. He is correct in thinking that the area will be three times that of the original square, however, the new shape has four of the original sides inside the shape, therefore its perimeter will not be three times as large as the original square's perimeter.
- b) The area of the new shape will be  $147cm^2$  as  
 $7 \times 7 = 49cm^2$  and  
 $3 \times 49cm^2 = 147cm^2$   
 The new shape has four of the original square's sides inside the shape, therefore its perimeter is  $56cm$ .

- 1) a)  $1m^2$  of a fence panel =  $\pounds 2$  per  $m^2$   
 b)  $1$  metre of the length of wooden frame around the panel =  $\pounds 1$  per metre



- 2) a)  $\pounds 28 = 4m \times 2m$  or  $2m \times 4m$  panel  
 b)  $\pounds 30 = 7m \times 1m$  or  $1m \times 7m$  panel or  $3m \times 3m$  panel.