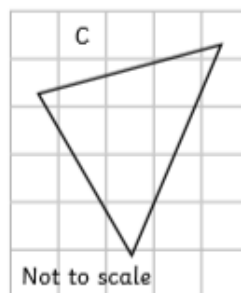
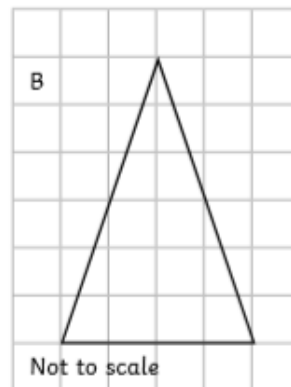
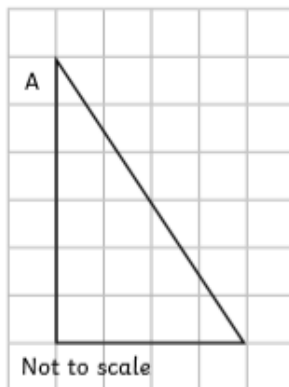
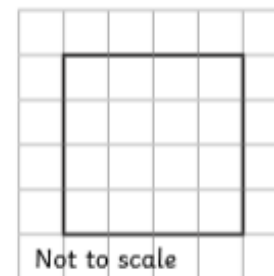


- b)** Give the area of the other two triangles.

- 2) Estimate the area of these triangles.



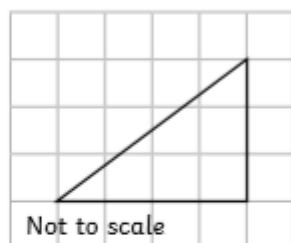
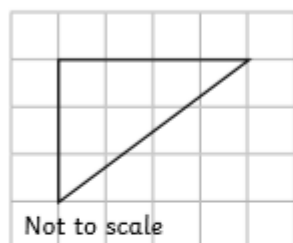
- 3) a) Draw a single diagonal line so that this square is split into two triangles of the same size.



- Give the area of each triangle.
- Compare the area of each triangle to the area of the whole square. What do you notice?



- 1) Grace has two triangles of the same size.



She places the two triangles together to make a rectangle.

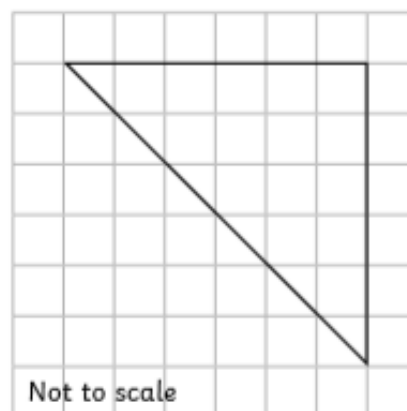


The area of the rectangle I have made is 12cm^2 . I think this means that the area of each of my triangles must be 6cm^2 .

Is Grace correct in her thinking? Prove your answer.

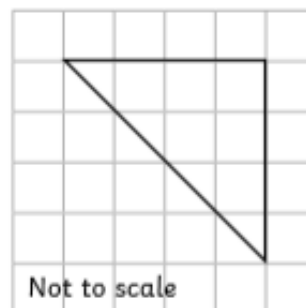
- 2) Aman has been finding the area of these triangles by counting the squares. Explain the error Aman has made with each triangle.

a)



$\text{Area} = 15\text{cm}^2$

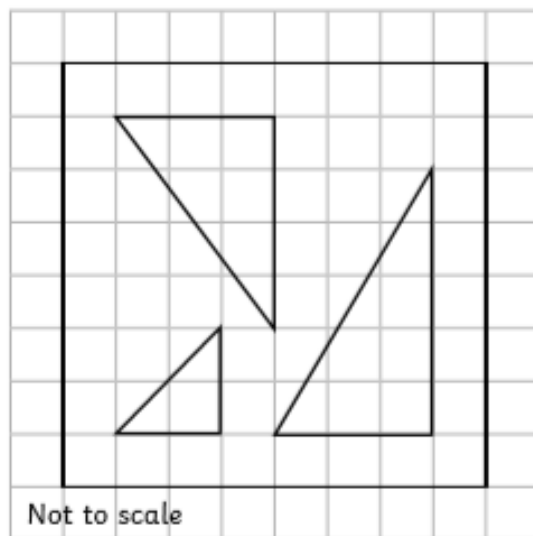
b)



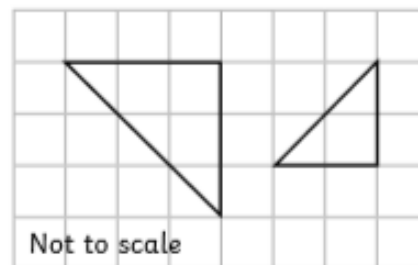
$\text{Area} = 10\text{cm}^2$



- 1) I cut these triangles out of 1cm^2 paper. After I have cut all the triangles out, what area of the original piece of paper is left?



- 2) Sadie is drawing right-angled triangles.



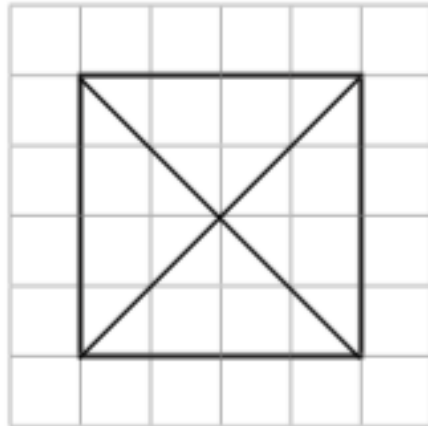
I've noticed that the area of some of my triangles is equal to the length of the two shortest sides when they are added together.

Using 1cm^2 paper, investigate which right-angled triangles Sadie could have drawn.

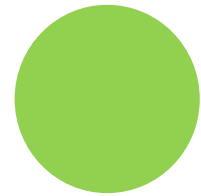
Sadie could have drawn = _____

ANSWERS

- 1) a) The area of triangle C is not a whole number (12.5cm^2).
b) Triangle A has an area of 8cm^2 . Triangle B has an area of 9cm^2 .
- 2) For triangle A, accept estimates of approximately 12cm^2 .
For triangle B, accept estimates of approximately 18cm^2 .
For triangle C, accept estimates of approximately 12cm^2 .
- 3) a) Both possible diagonal lines are shown:

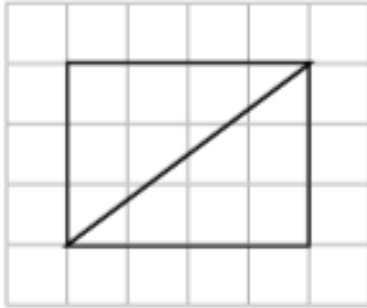


- b) 8cm^2
- c) The triangles each have an area that is half of the area of the whole square (16cm^2).

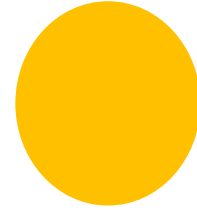


- 1) *Grace is correct in her thinking. When the two triangles are placed together, this creates a rectangle. If we find the area of the rectangle then halve it, we will have the area of one triangle.*

Children should have drawn a rectangle made up of the two triangles, for example:



- 2) a) *Aman has counted only the whole squares and has not included the part squares.*
b) *Aman has counted all the part squares as whole 1cm^2 squares.*



1) The total area remaining is 48.5cm^2 .

2) Sadie could have drawn a right-angled triangle in which the two shortest sides measure 3cm and 6cm.

$$3 + 6 = 9\text{cm}$$

The area of this triangle is 9cm^2 .

She could also have drawn a right-angled triangle in which the two shortest sides both measure 4cm.

$$4 + 4 = 8\text{cm}$$

The area of this triangle is 8cm^2 .

