

Area

White Rose
MATHS

sample

Autumn Term Block 3

Name _____ Class _____

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Year 4 Autumn Term Block 3

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What is area?

1 a) Work with a partner.

Use 4 sticky notes to make as many different rectilinear shapes as you can.

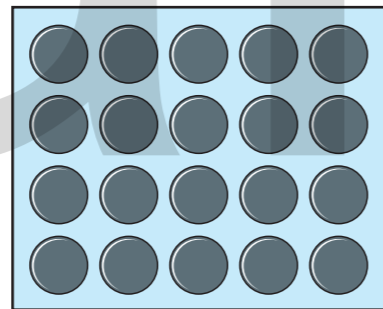
How many different shapes did you make?



b) All of the shapes that you made have the same area.

Explain how you know that this is correct.

2 Tiny covers a rectangle with some counters.



a) Tiny thinks the area of the rectangle is exactly 20 counters.

Is Tiny correct? _____

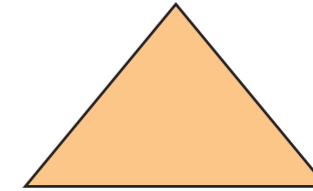
b) Explain why counters are not the best way to measure area.



3 Eva draws this shape.



smaller area

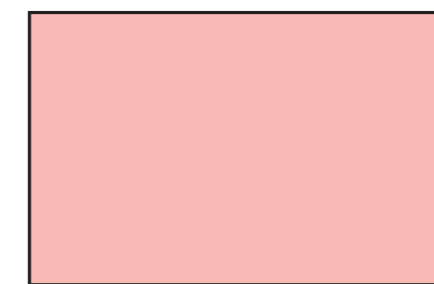
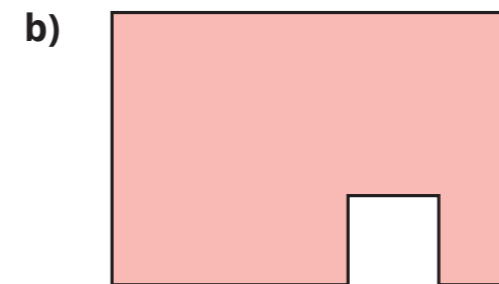
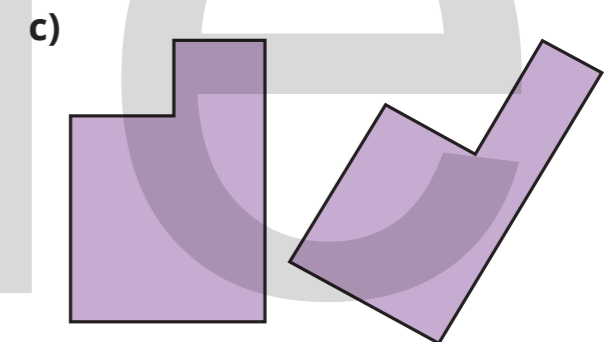
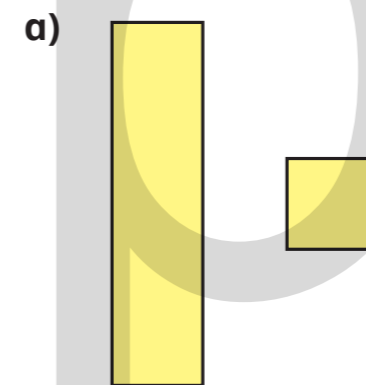


greater area

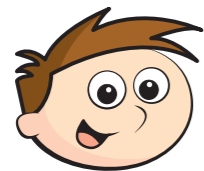
a) Draw a triangle with a smaller area.

b) Draw a triangle with a greater area.

4 For each pair of shapes, tick the shape with the greater area.



5



A longer object will always have a greater area than a shorter object.

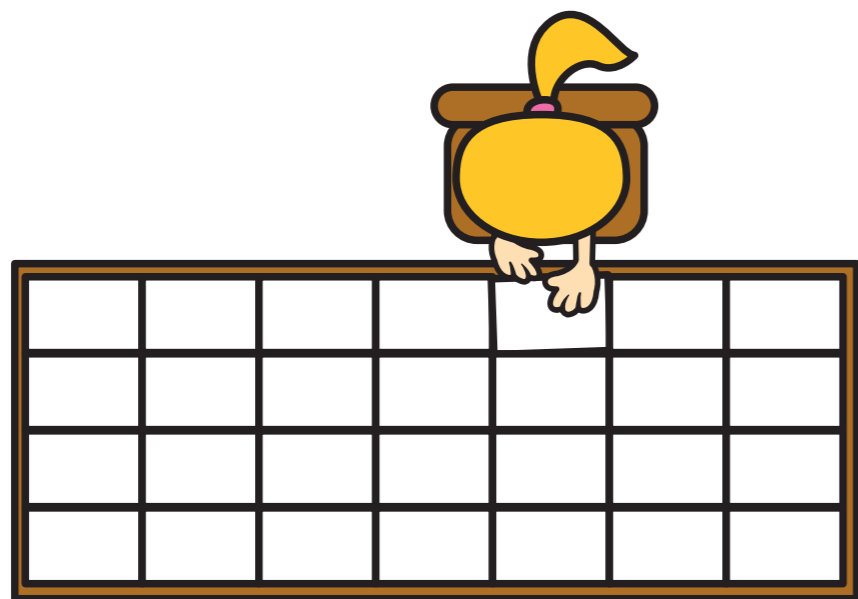
Do you agree with Teddy? _____

Draw a picture to support your answer.

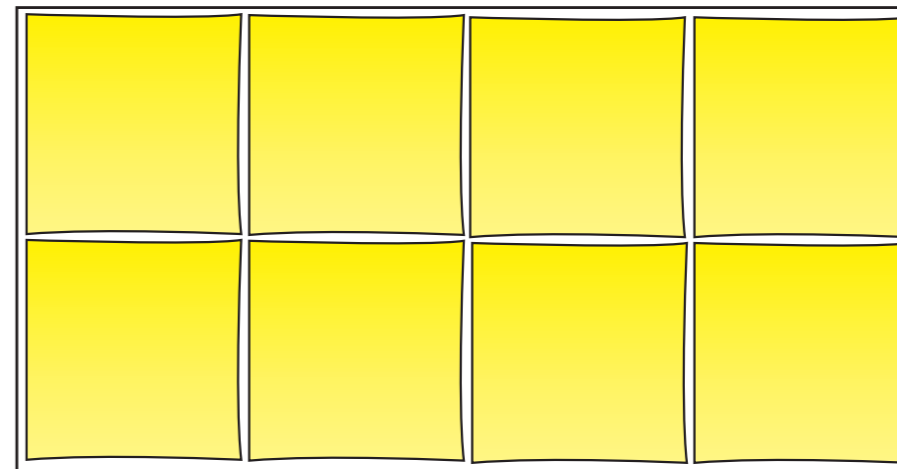


6

Eva is measuring the area of the tabletop. She has covered the table with exactly 28 sheets of paper.



She covers one sheet of paper with sticky notes.



What is the area of the **tabletop** in sticky notes?

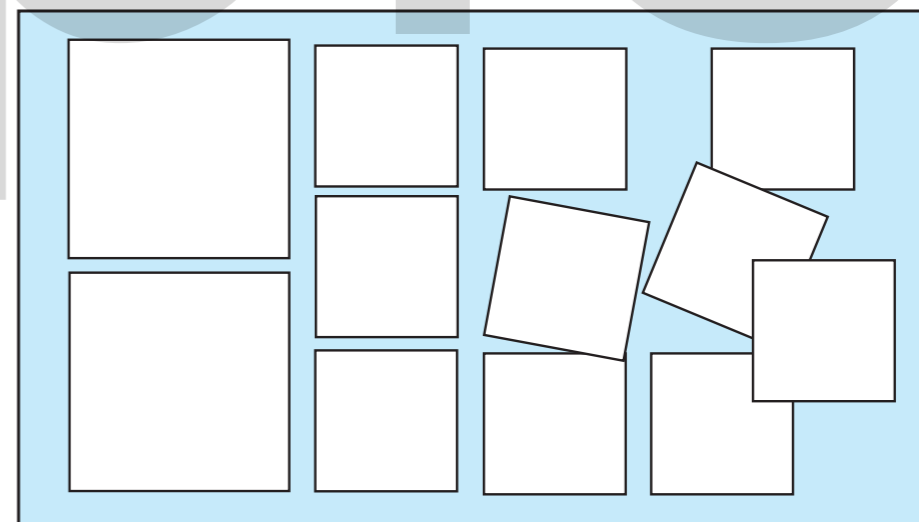


Is your answer exact? Talk about it with a partner.



7

Kim thinks that the area of the rectangle is 12 squares.



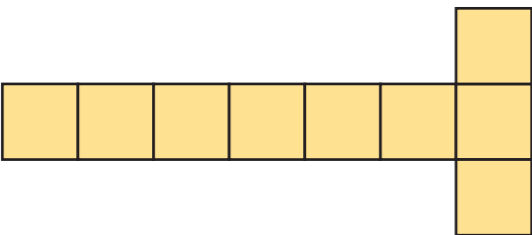
Is Kim correct? _____

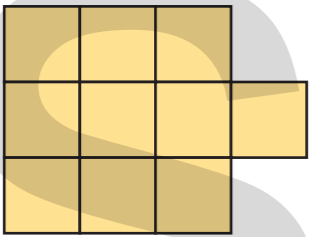
How do you know?

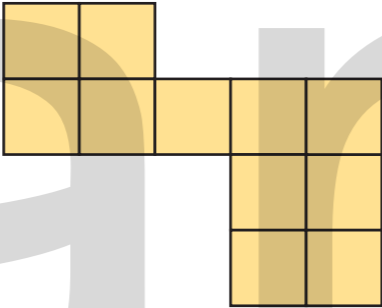


Count squares

1 Count the squares in each shape to find the area.

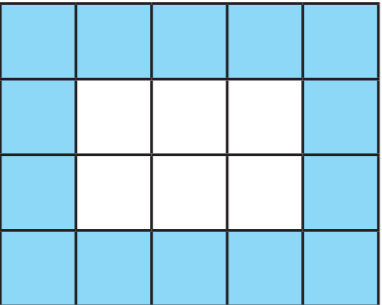
A  The area is squares.

B  The area is squares.

C  The area is squares.

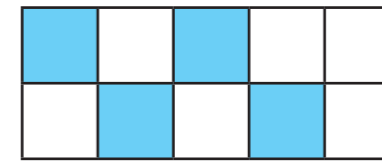
Which shape has the greatest area? shape _____

2 What is the area of the shaded part of the shape?



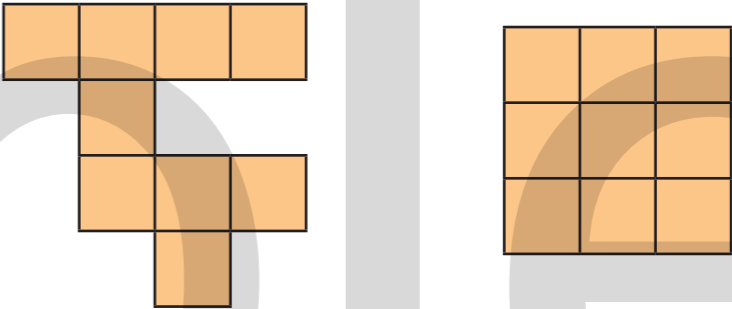
The area is squares.

3 Here is a kitchen tile.



- a) What area of the tile is blue? squares
- b) What area of the tile is white? squares
- c) What is the total area of the tile? squares

4 These two shapes are made up of squares of the same size.



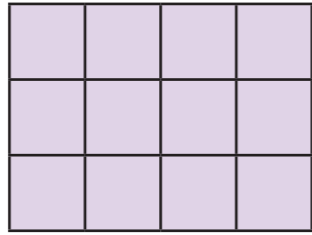
Jack says: "These two shapes have the same area."

Rosie says: "The first shape is bigger as it takes up more space."

Who is correct? _____

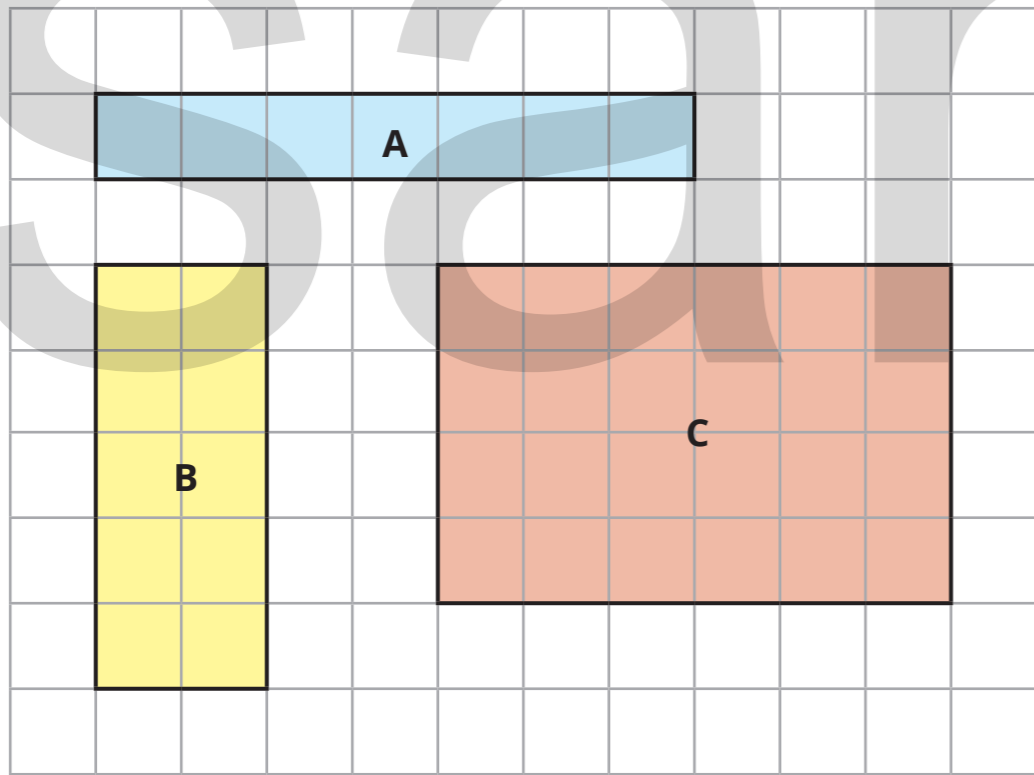
Explain how you know.

5 Here is a rectangle.



- a) The rectangle has rows and columns.
- b) What is the area of the rectangle? squares
- c) How did you work out the area?

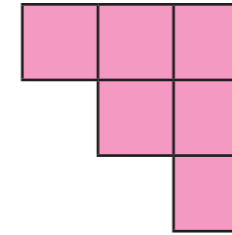
6 Find the area of each rectangle.



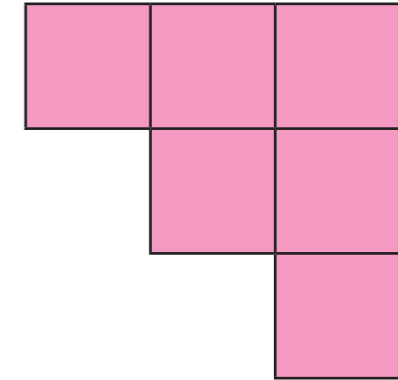
A = squares B = squares C = squares

7 Nijah and Eva are making shapes. They each use 6 squares.

Nijah's shape



Eva's shape

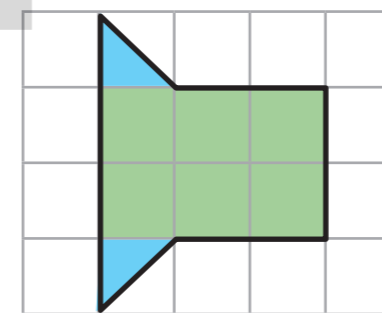


The area of Nijah's shape is equal to the area of Eva's shape.

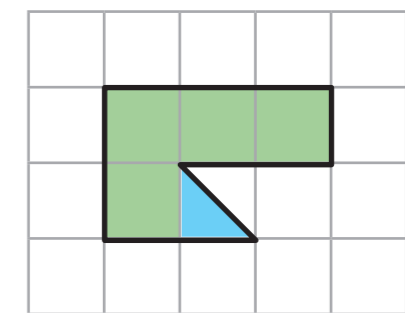
Is the statement true or false? _____

How do you know? _____

8 What is the area of each shape?



area = squares

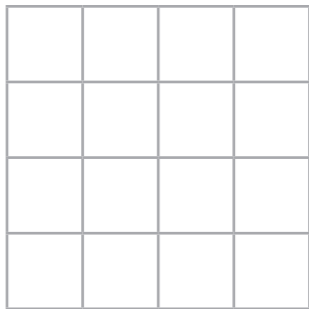


area = squares

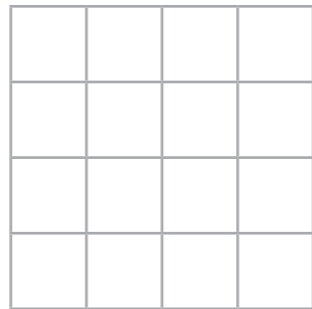
Make shapes

1 Draw a shape with the given area.

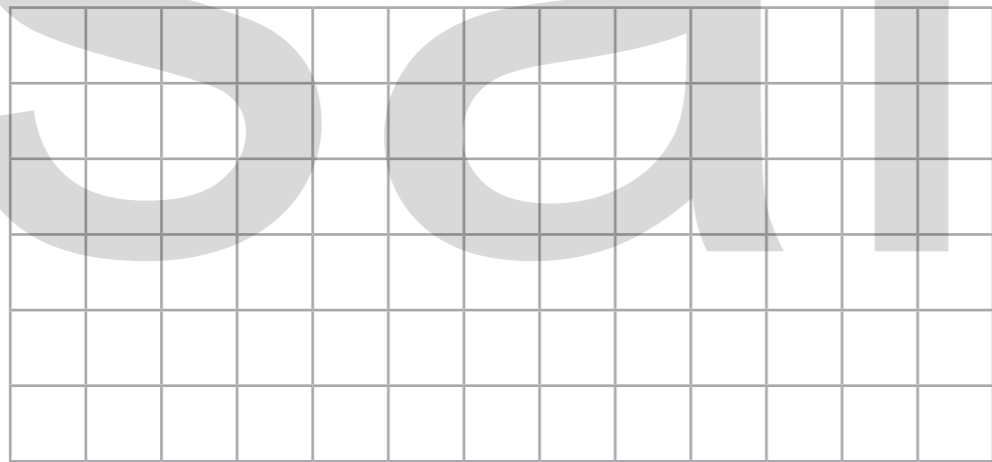
a) area = 7 squares



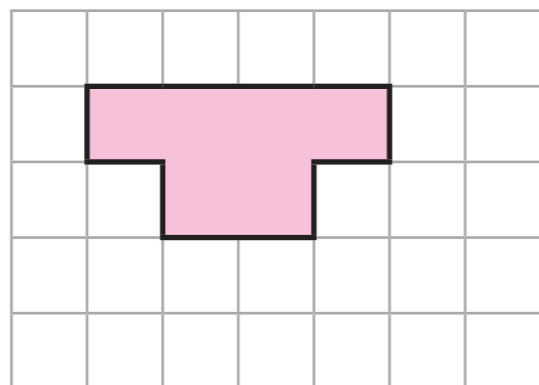
b) area = 13 squares



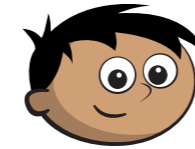
2 Draw two different shapes, each with an area of 8 squares.



3 Shade more squares to make the area 11 squares.

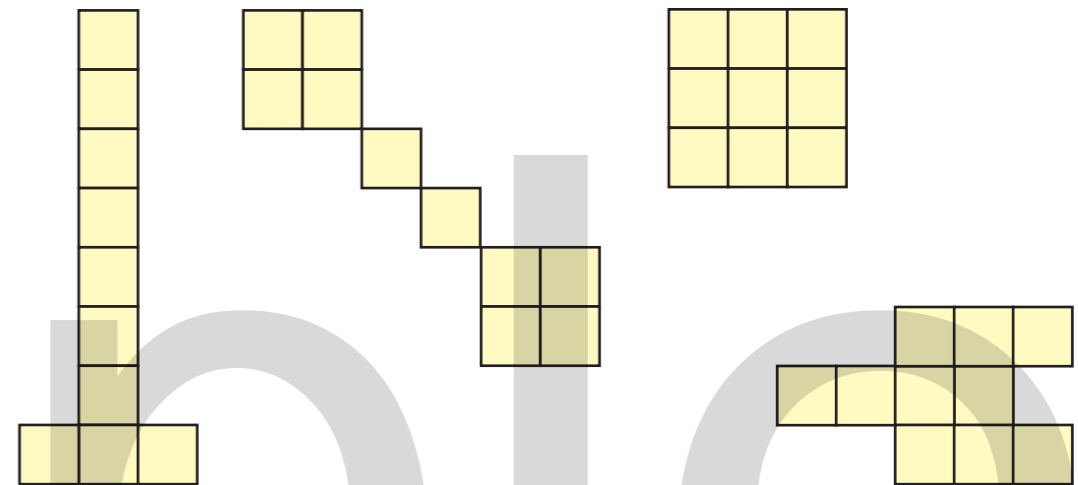


4 Amir has created a shape.



My shape has an area of 10 squares and is rectilinear.

Tick the shapes that Amir could have made.



5



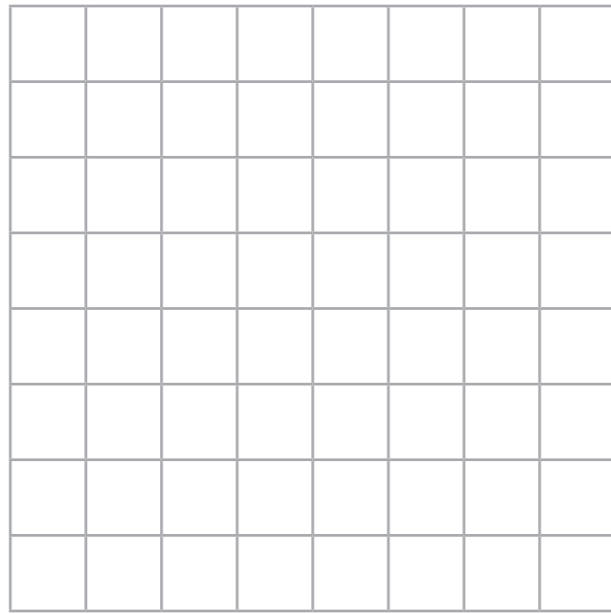
I cannot make a large square using an odd number of smaller squares.

Do you agree with Whitney? _____

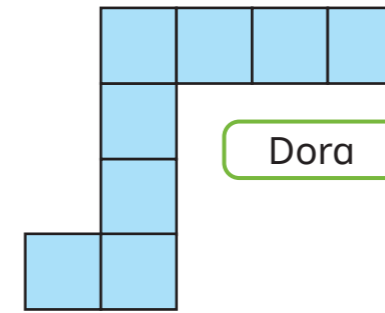
Draw a picture to support your answer.



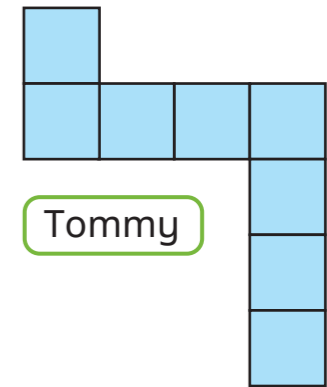
6 Draw two different rectangles, each with an area of 12 squares.



8 Dora and Tommy have drawn rectilinear shapes.



Dora



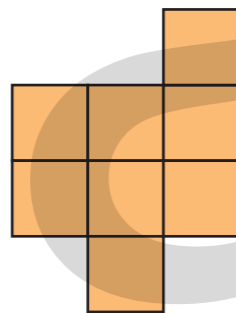
Tommy

Tommy says that he has made a different shape with the same area.

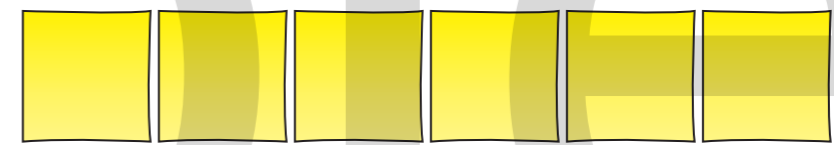
Do you agree with Tommy? _____

Explain your answer.

7 a) Add squares to this shape to make it into a square.



9 Use six square sticky notes or square shapes.



Make as many different rectilinear shapes with the squares as you can.

Draw some of your shapes.

Compare answers with a partner.

b) What is the area of the square you have made?

 squares

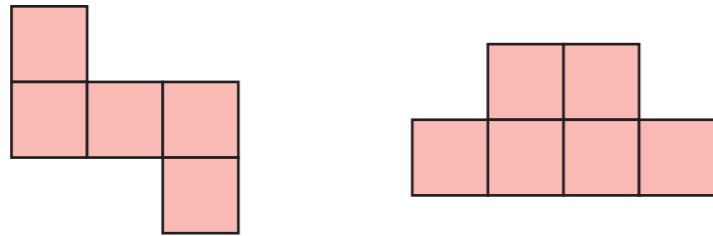
c) How could you make a larger square?

How many more squares do you need to add?

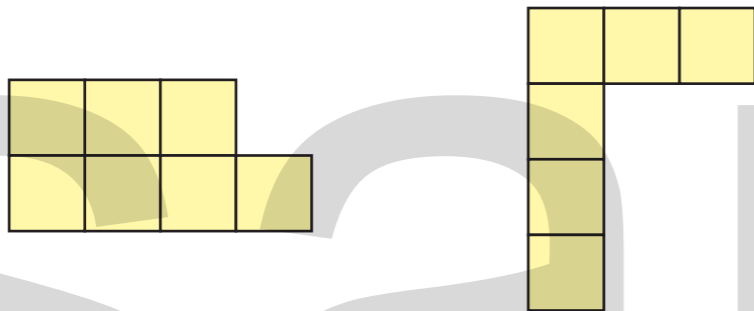
Show your workings.

Compare areas

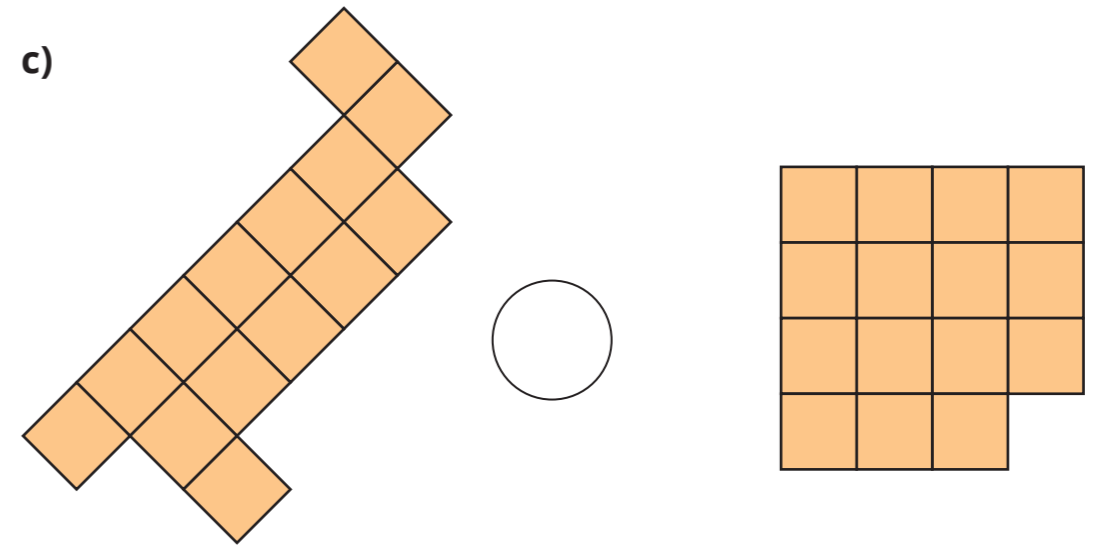
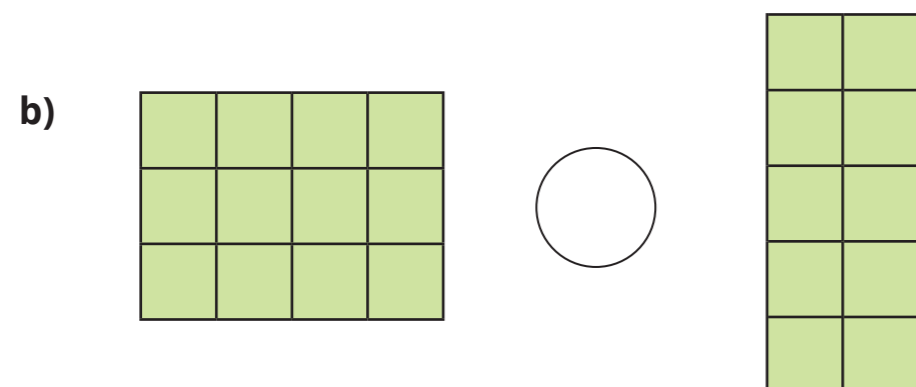
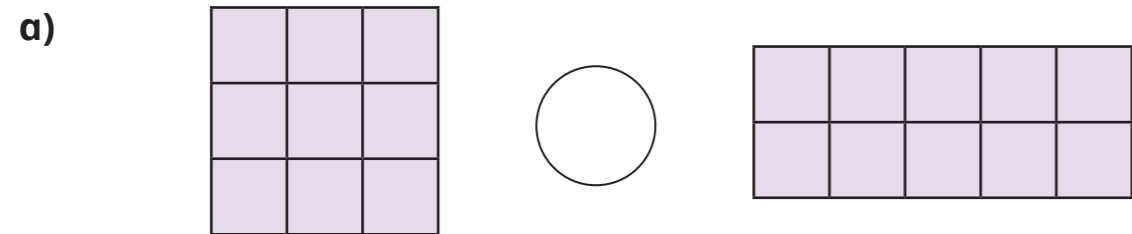
1 a) Tick the shape with the greater area.



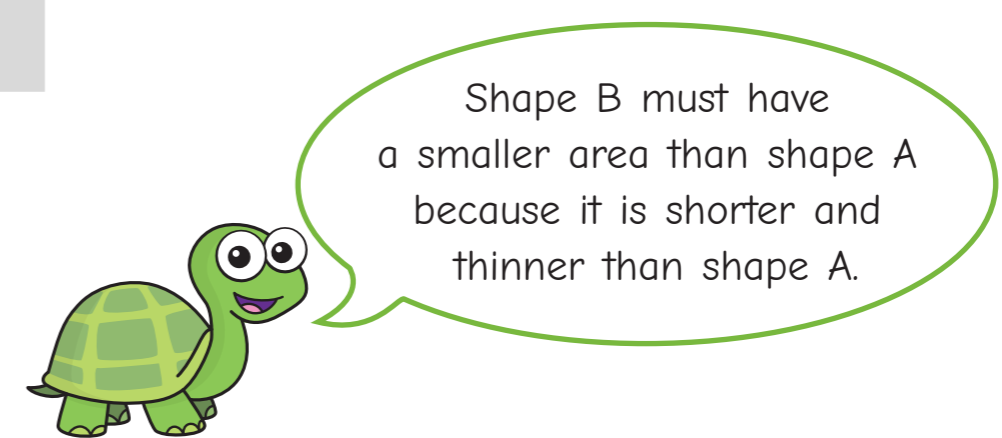
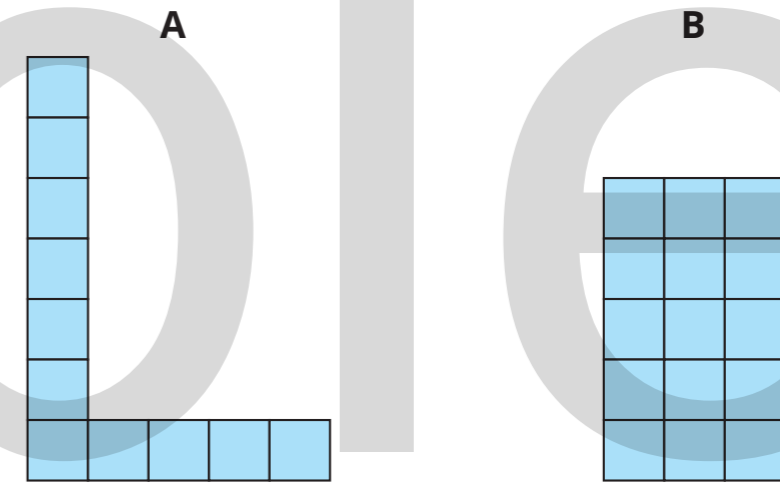
b) Tick the shape with the smaller area.



2 Write $<$, $>$ or $=$ to compare the areas of the shapes.



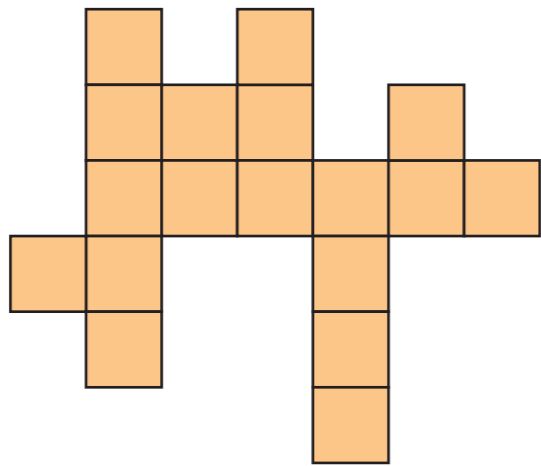
3 Tiny draws these two shapes.



Do you agree with Tiny? _____

Explain your reasoning.

4 Here is a shape.



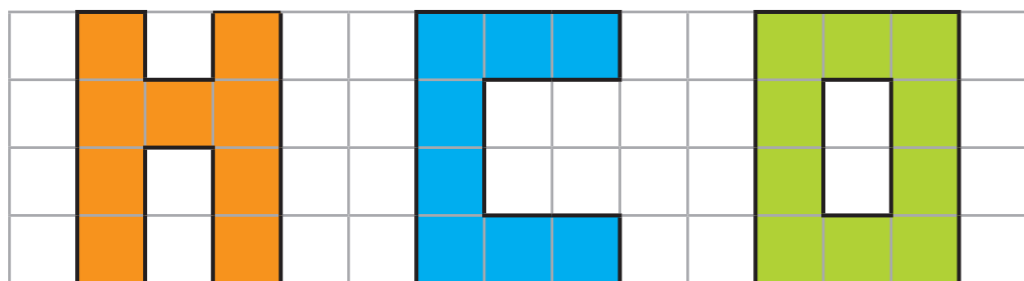
a) What is the area of this shape? squares

b) Draw a different shape with an area that is 2 squares greater.



5 Put these letter shapes in order of size.

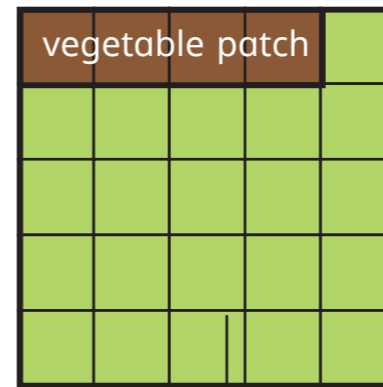
Start with the shape with the smallest area.



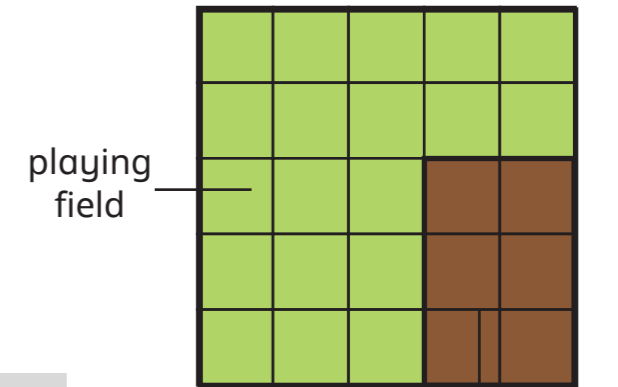
6 Here are the plans of two school fields.

Each has a playing field and a vegetable patch.

High Street School



Main Road School



a) What is the difference in the area of the playing fields?

squares

b) What is the difference in the area of the vegetable patches?

squares

c) High Street School doubles the size of its vegetable patch.

Main Road School adds 1 square to its vegetable patch.

Which school now has the larger vegetable patch?

Show your workings.

_____ School now has the larger vegetable patch.



sample

sample

sample