

7

# Covering Shapes

Louis counts how many blue Pattern Blocks it takes to cover this star.



**Explore**



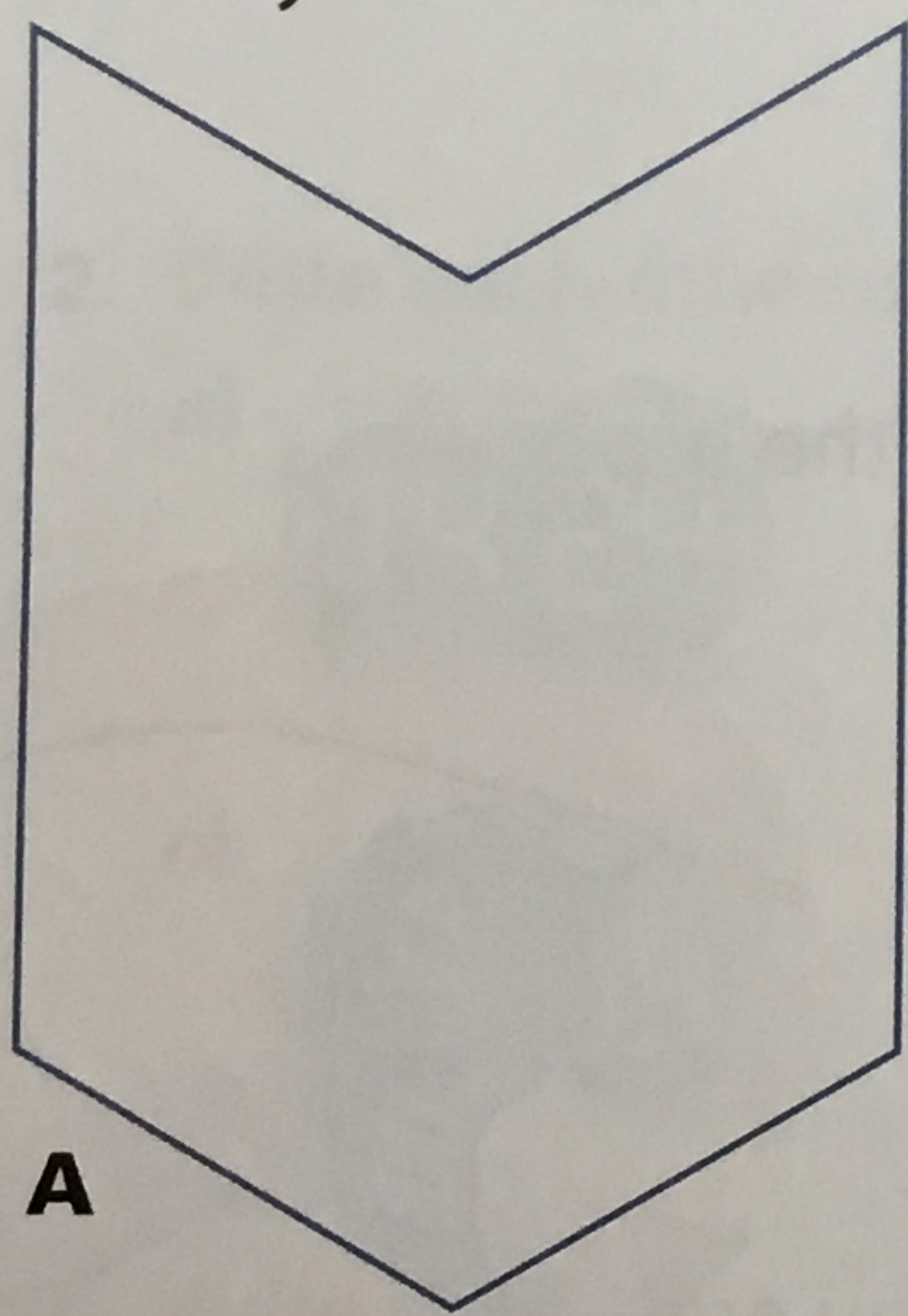
You will need Pattern Blocks.

Estimate how many blue Pattern Blocks cover each shape.

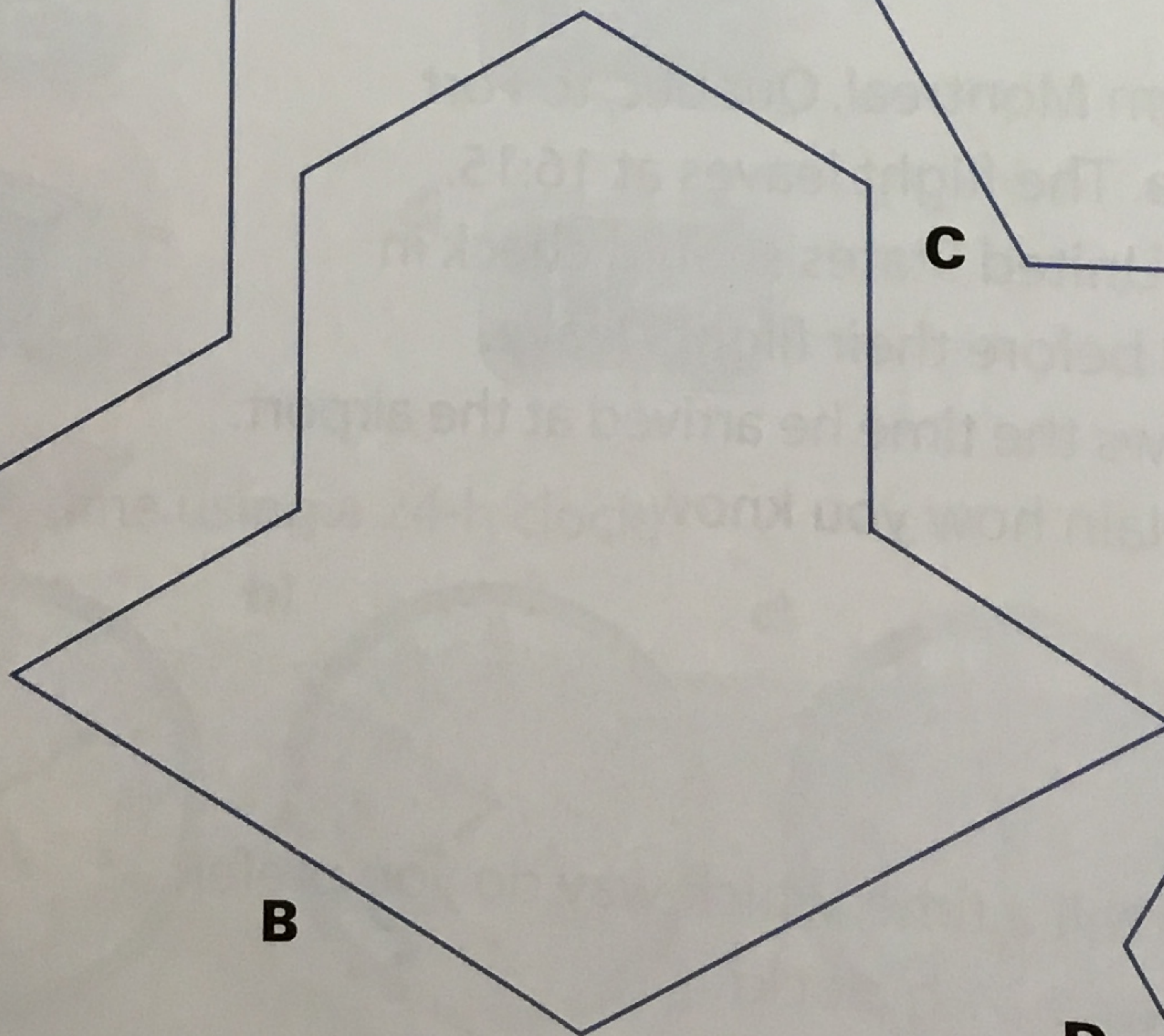
Cover each shape to check your estimate.

Order the shapes by the number of blocks that cover them, from greatest to least.

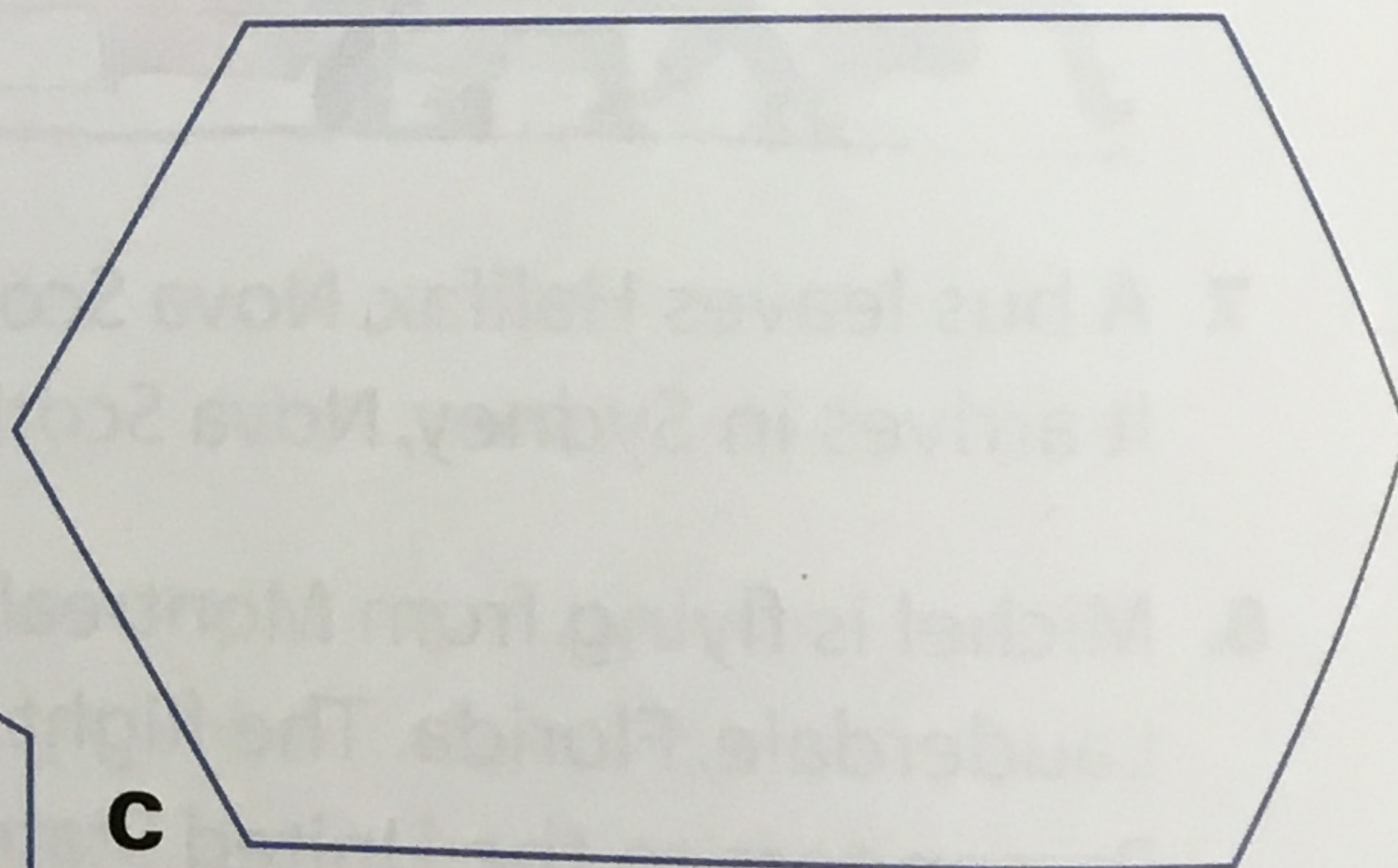
Show your work.



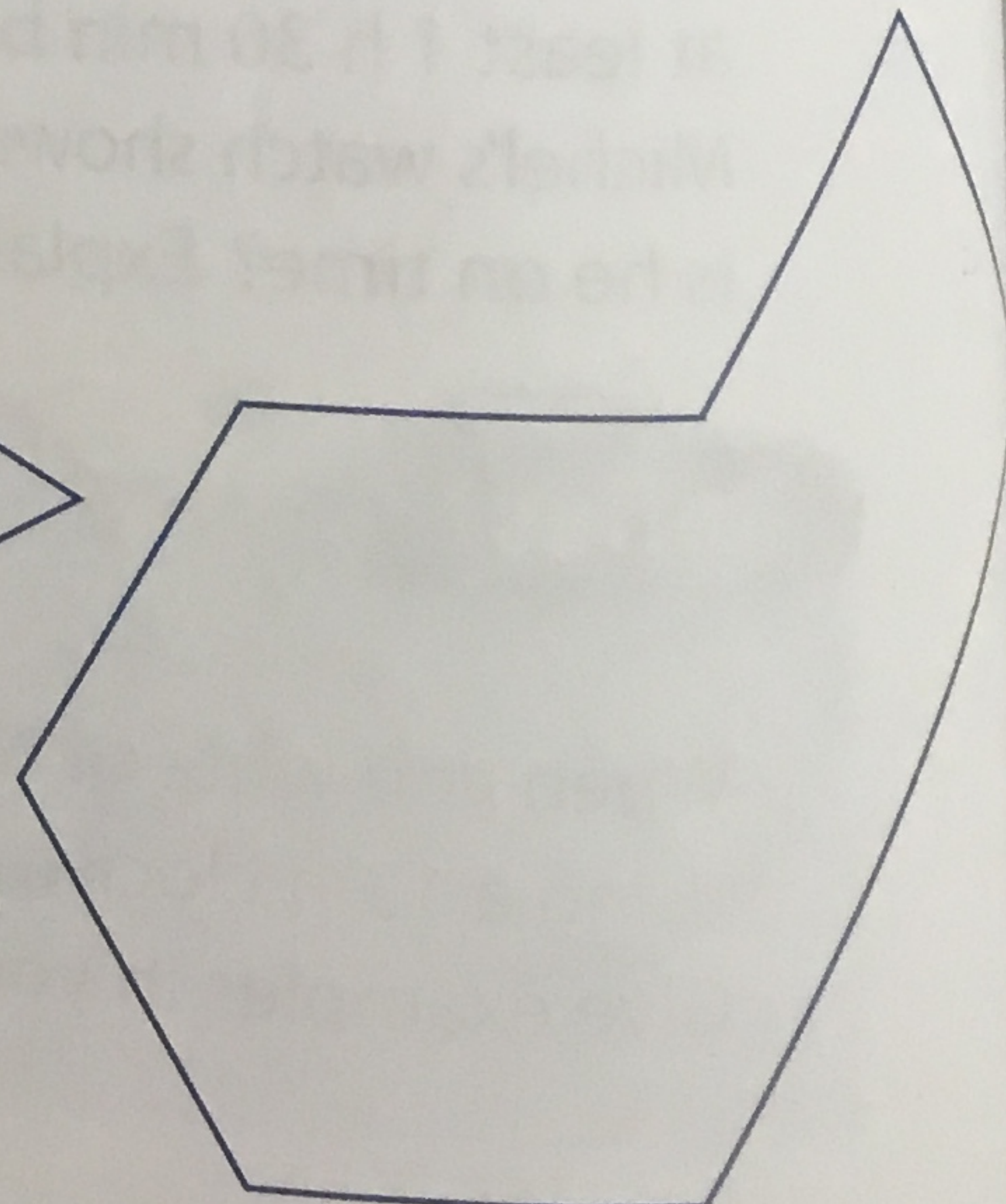
**A**



**B**



**C**



**D**

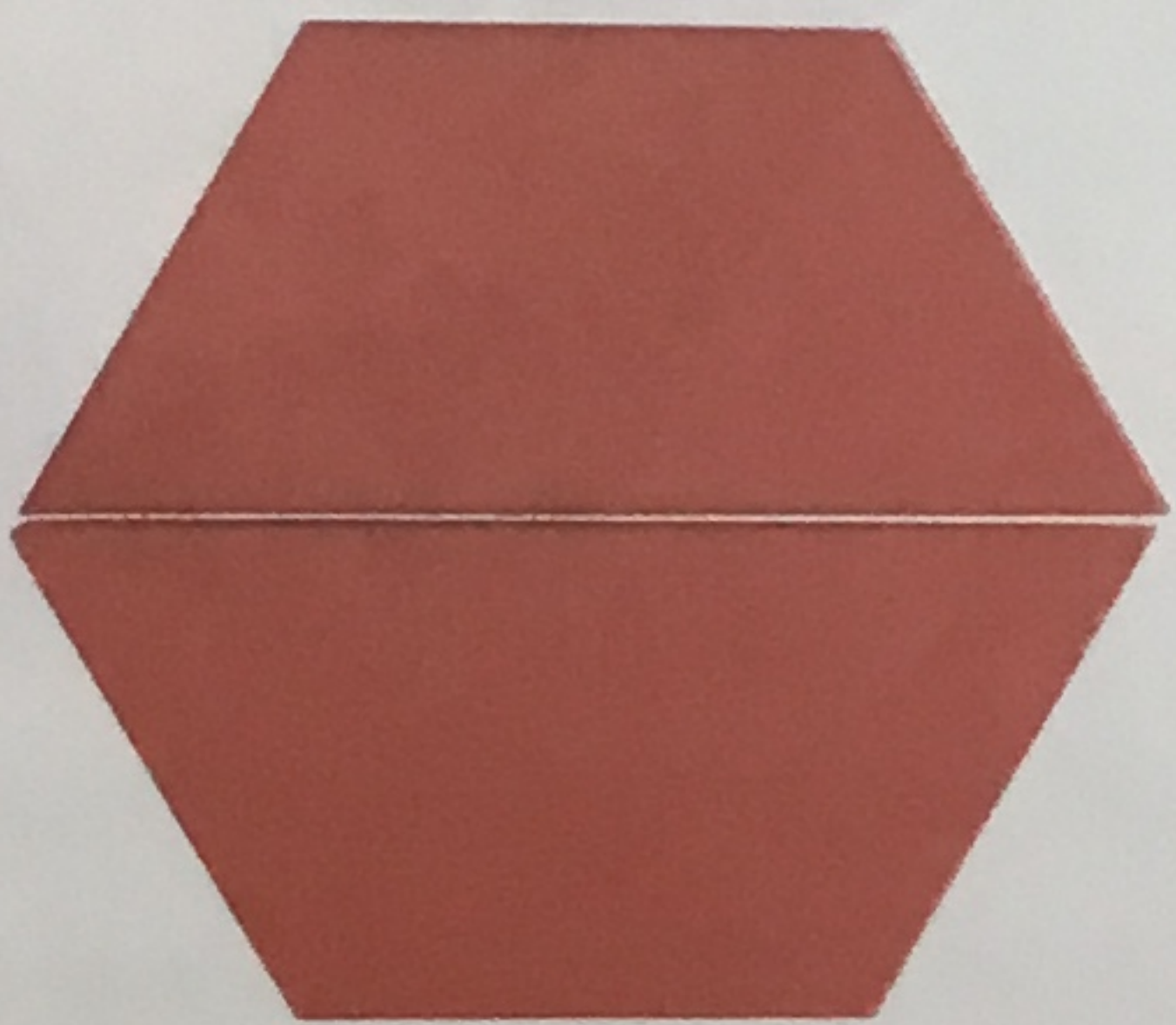


## Show and Share

Share how you ordered the shapes.  
How close were your estimates to the actual numbers  
of blocks?

### Connect

The number of units needed to cover a shape is the **area** of the shape.  
The units must be the same size. The units must be *congruent*.  
You can find the area of a shape by counting how many units cover it.



The unit is 1 red Pattern Block.  
The area is 2 red Pattern Blocks.



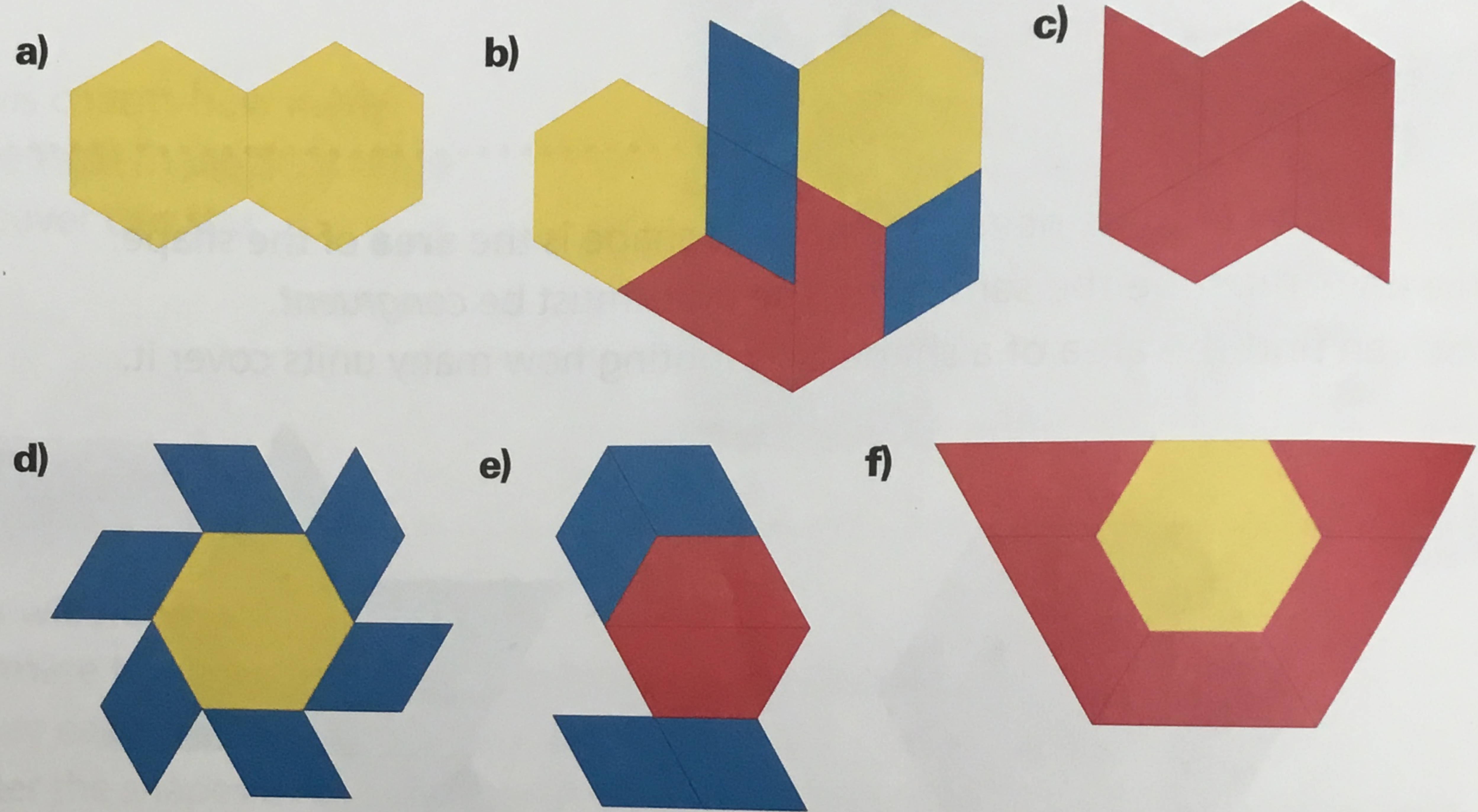
The unit is 1 green Pattern Block.  
The area is 7 green Pattern Blocks.





# Practice

1. Make each shape with Pattern Blocks.  
Use 1 green Pattern Block as the unit.  
Find the area of each shape.



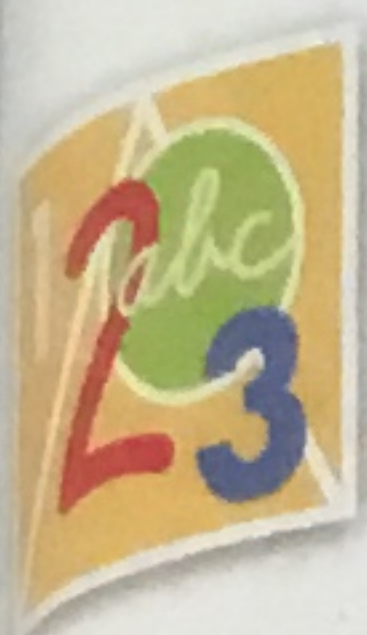
2. Make your own shape with Pattern Blocks.  
Draw the shape on triangular dot paper.  
Have a classmate find the area of the shape.  
She can choose the units.

- 3. Use red and yellow Pattern Blocks.
  - a) Make a design with area 12 green Pattern Blocks.
  - b) Make a design with area between 10 and 15 green Pattern Blocks.
  - c) Make a design with area 6 blue Pattern Blocks.
  - d) Make a design with area 9 blue Pattern Blocks.

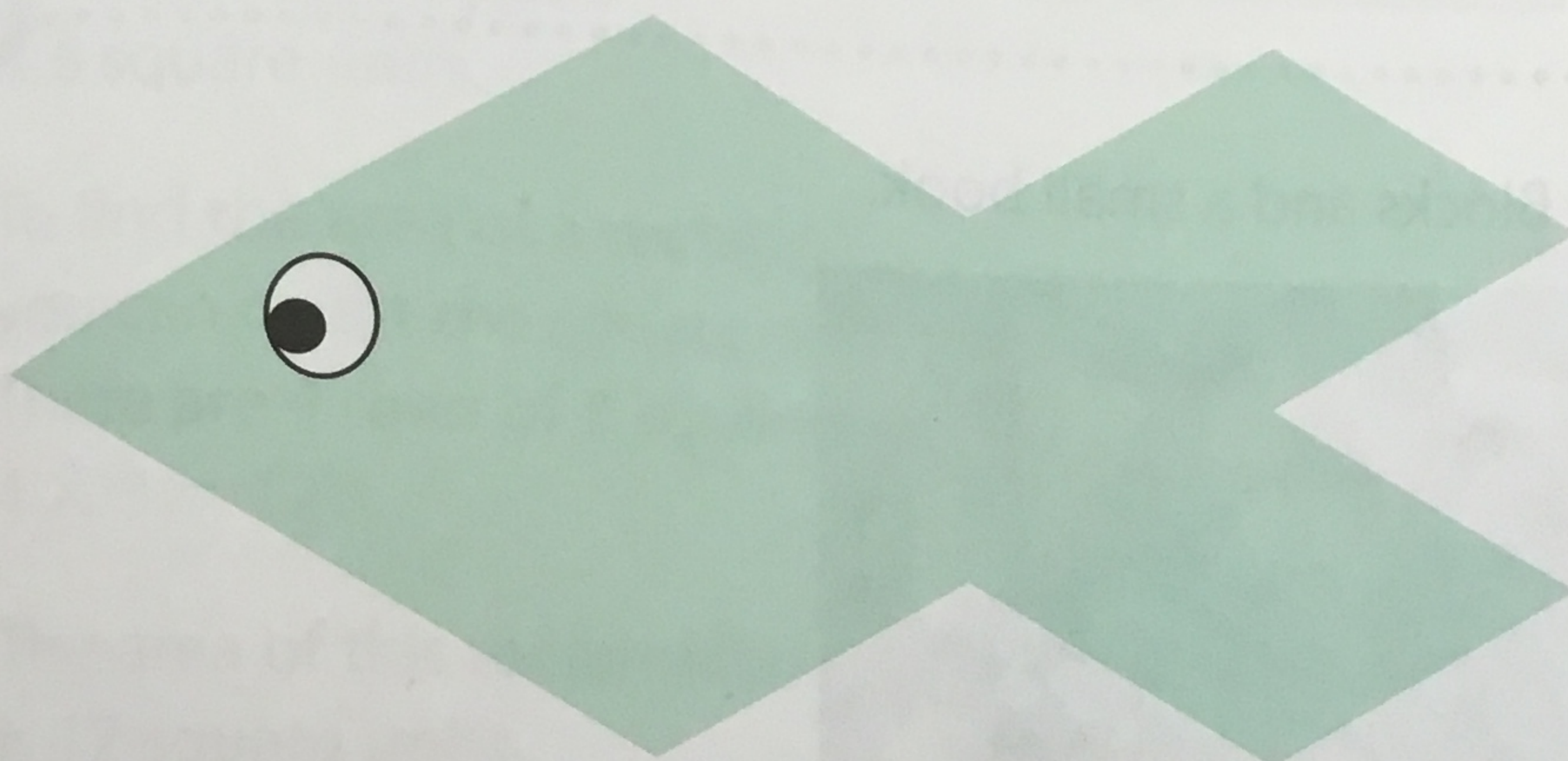
Colour triangular grid paper to show your designs.



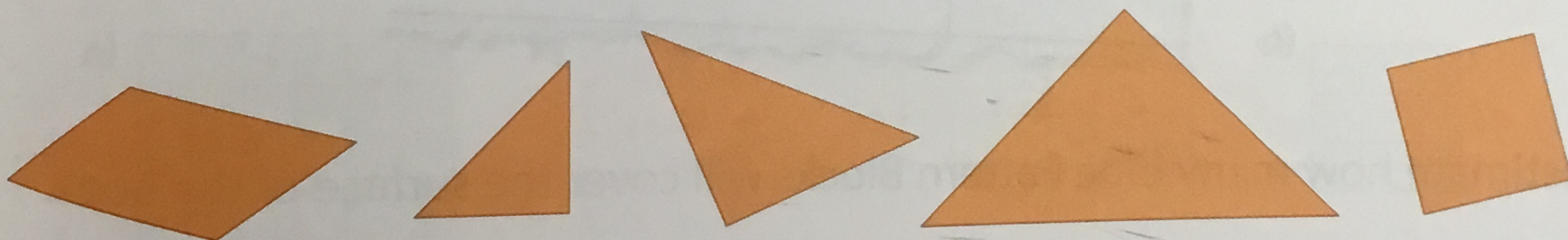




4. The area of a shape is 6 green Pattern Blocks. Draw the shape on triangular dot paper. How many different shapes can you make? Explain how you made the different shapes.
5. Use Pattern Blocks to find the area of this fish. The unit is 1 blue Pattern Block.



6. Suppose the unit for area is 1 green Pattern Block. How can you find the area of the fish above without using green Pattern Blocks? Explain.
7. Use Tangram pieces.



Find the area of each shape in small triangles.

- a) the medium triangle                      b) the square  
c) the quadrilateral that is *not* the square                      d) the large triangle

### Reflect

Suppose you know how many blue Pattern Blocks cover a shape. How can you find how many green Pattern Blocks cover the same shape? Use words, pictures, or numbers to explain.