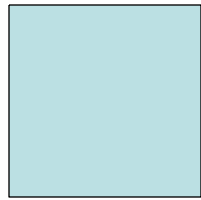


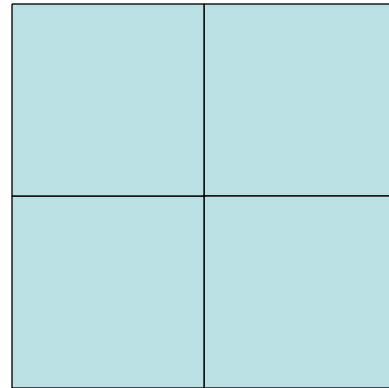
Dilations

Stretches

When a shape is dilated,
it is stretched by a certain factor.

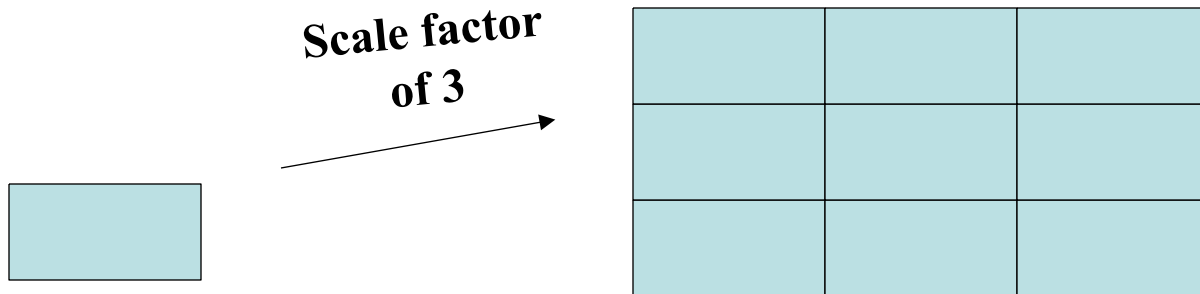


**Scale factor
of 2**



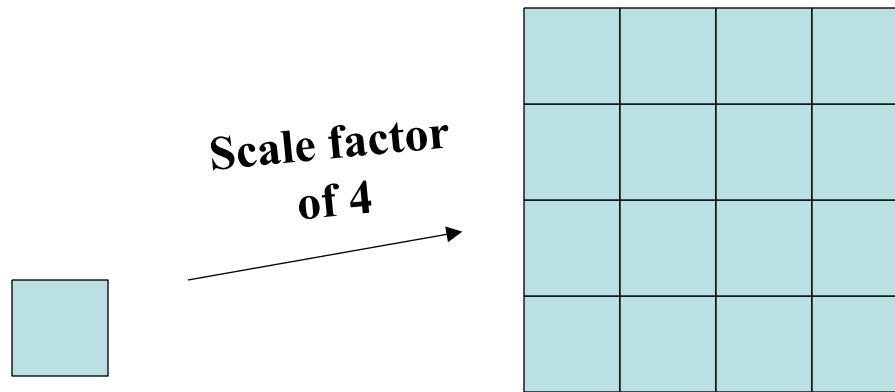
Double the length & double the width

When a shape is dilated,
it is stretched by a certain factor.



Triple the length & triple the width

When a shape is dilated,
it is stretched by a certain factor.



Quadruple the length & quadruple the width

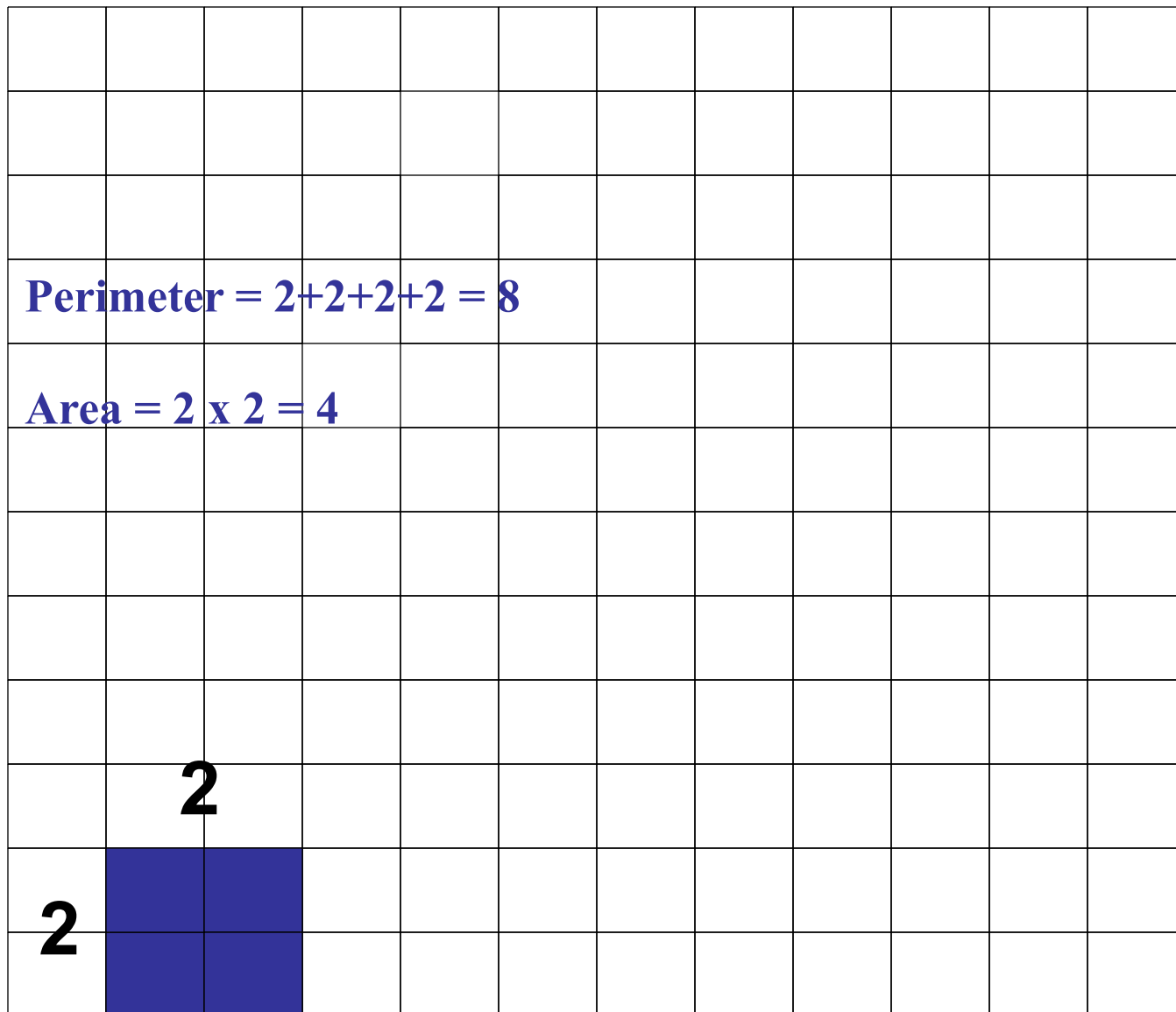
Practice Time



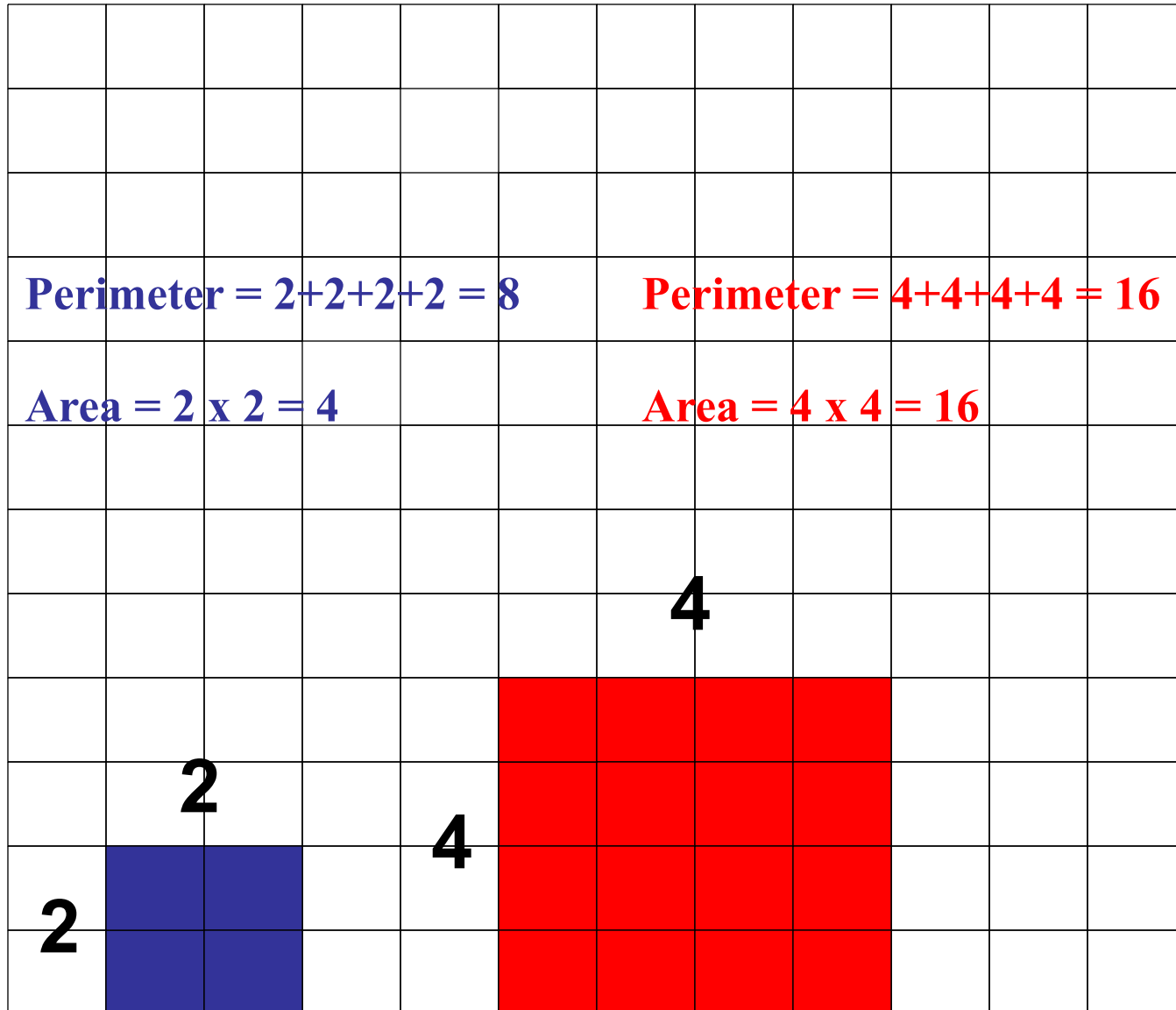
Dilate each shape according to the given scale factor. Then find the perimeter and area of the dilated shape.

A 12x12 grid with the bottom-left 2x2 cells highlighted in blue. The grid consists of 12 columns and 12 rows. The cells at (row, column) coordinates (11, 1), (11, 2), (12, 1), and (12, 2) are filled with a solid blue color, while all other cells are white with black grid lines.

1) Scale Factor = 2



1) Scale Factor = 2



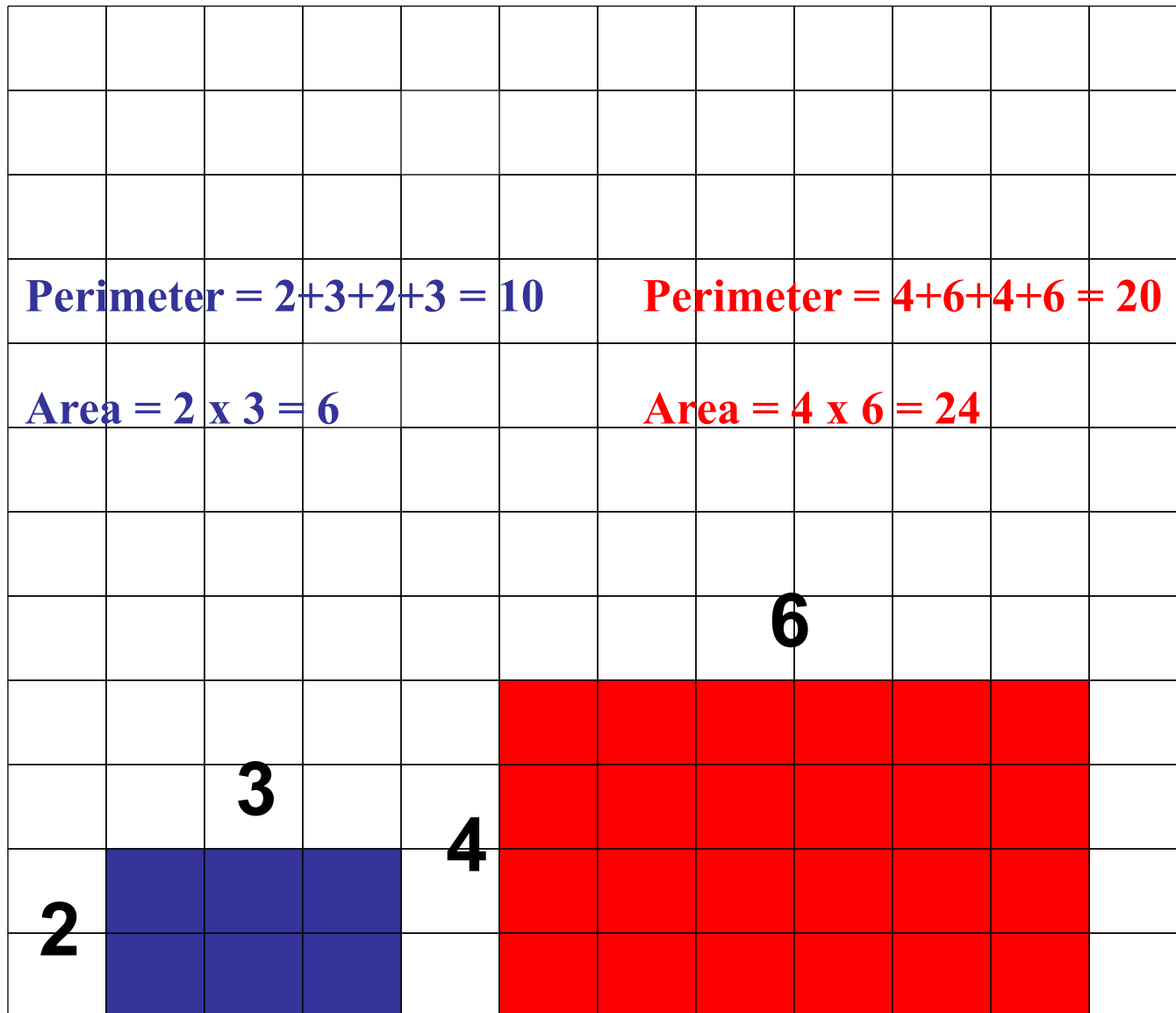
[illegible]

Perimeter = $2+3+2+3 = 10$

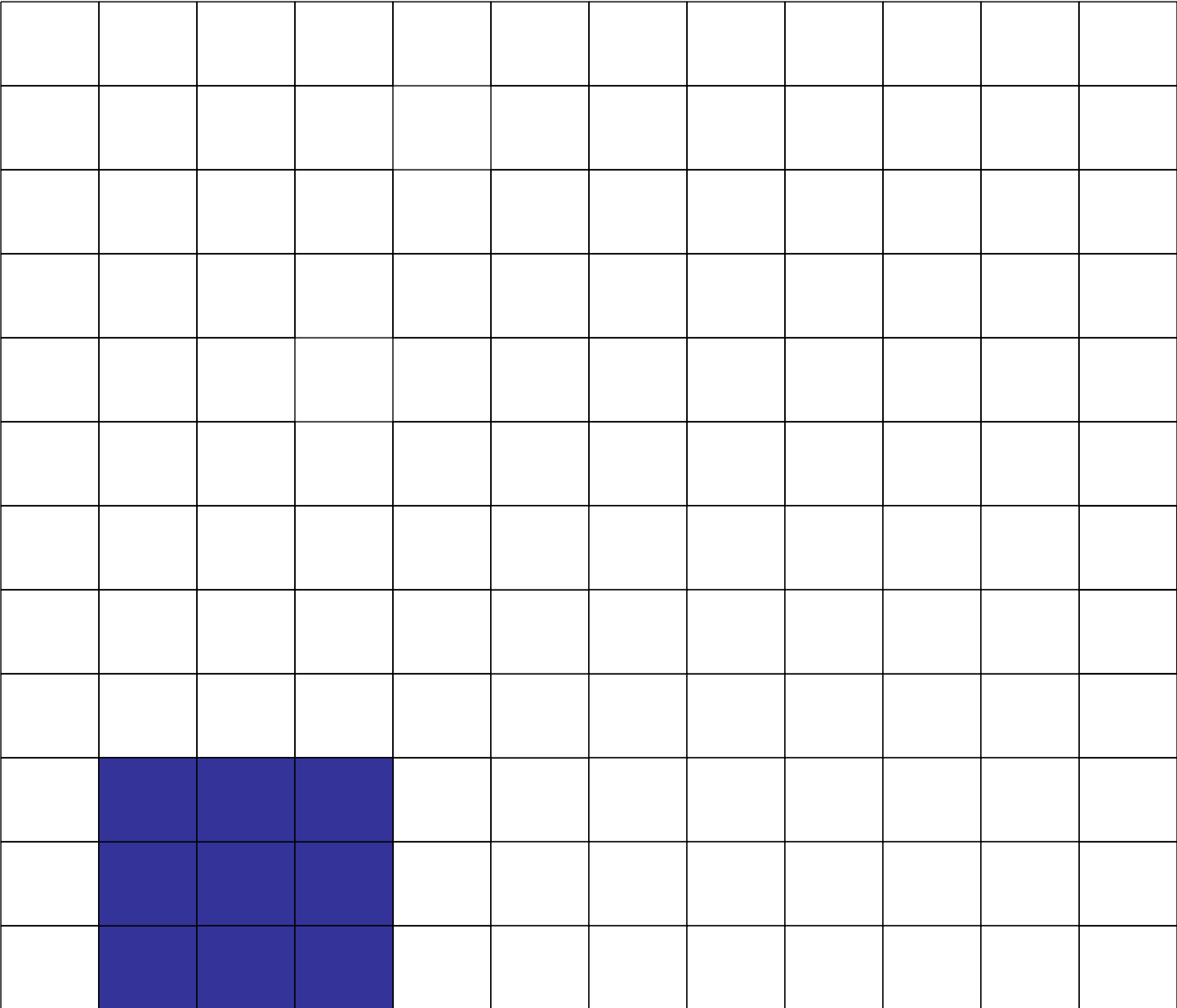
Area = $2 \times 3 = 6$

Area = 2 x 3 = 6			
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2) Scale Factor = 2



A 12x12 grid with a 3x3 blue square in the bottom-left corner. The blue square is located in the bottom-left corner of the grid, spanning the first three columns and the last three rows. The rest of the grid is white.



3

3

Perimeter = 3+3+3+3 = 12

Area = 3 x 3 = 9

3

3

Perimeter = 3+3+3+3 = 12

Area = 3 x 3 = 9

3

3

Perimeter = 3+3+3+3 = 12

Area = 3 x 3 = 9

Perimeter = $3+3+3+3 = 12$

Area = $3 \times 3 = 9$

3

3

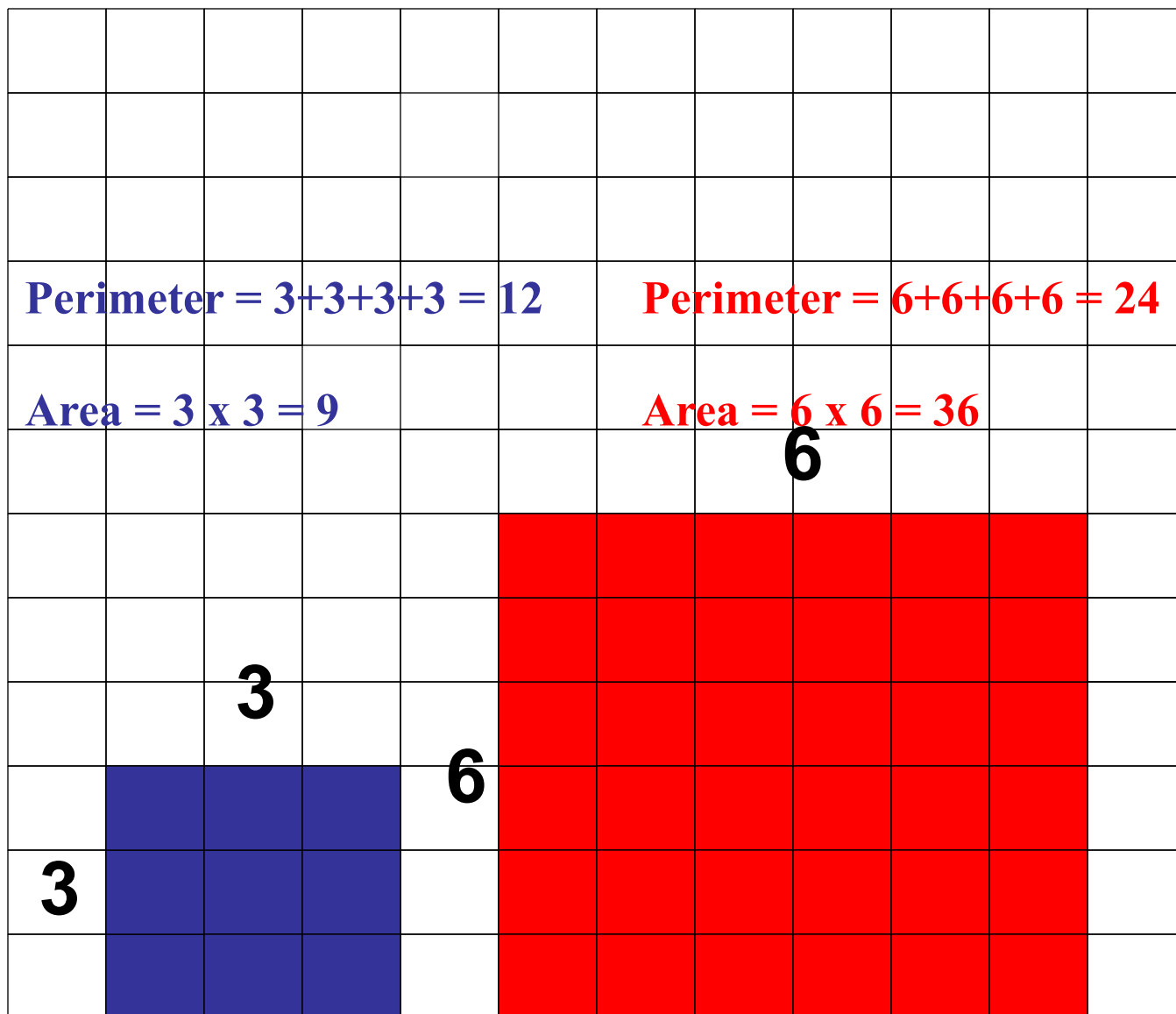
Perimeter = $3+3+3+3 = 12$

Area = $3 \times 3 = 9$

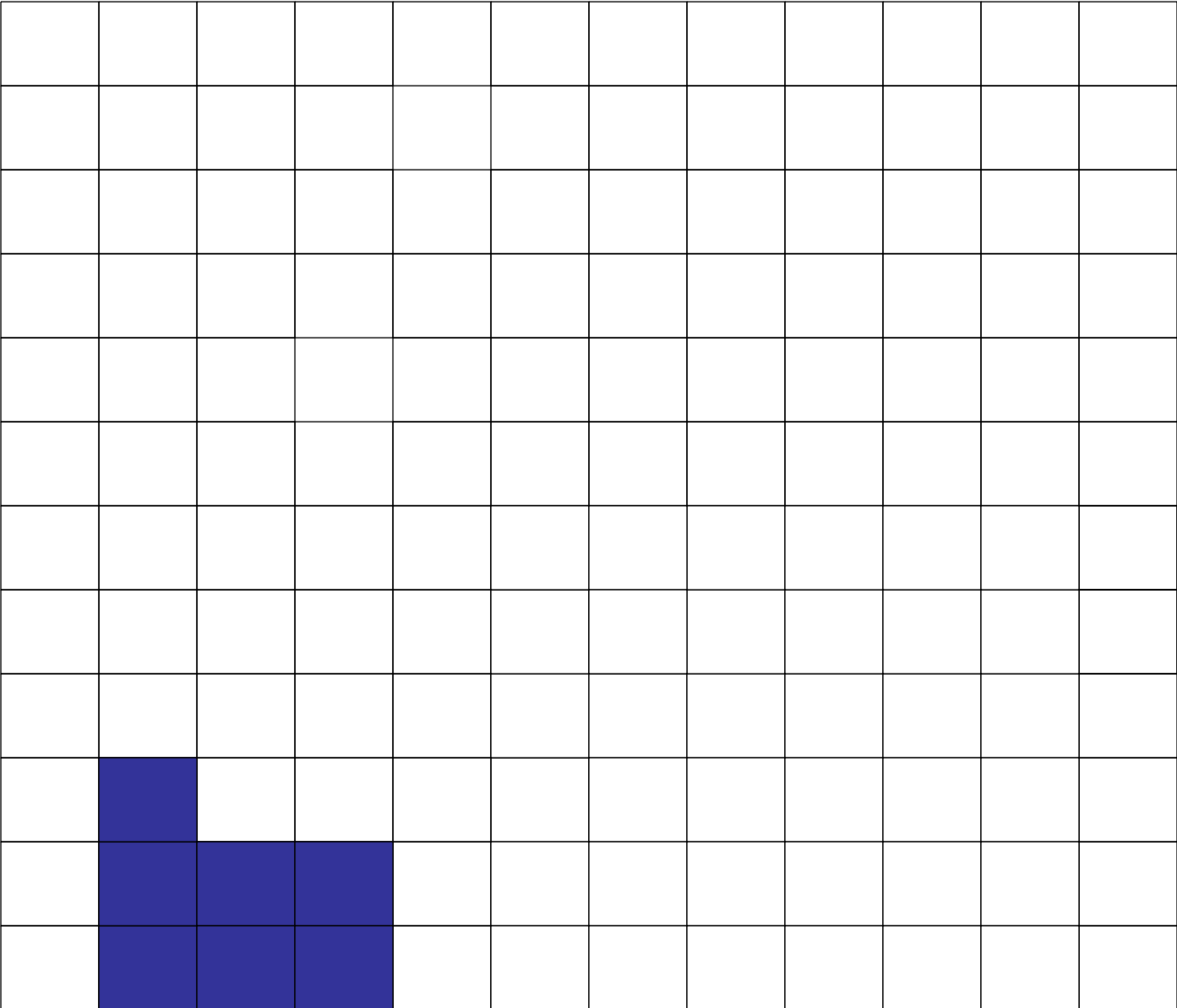
3

3

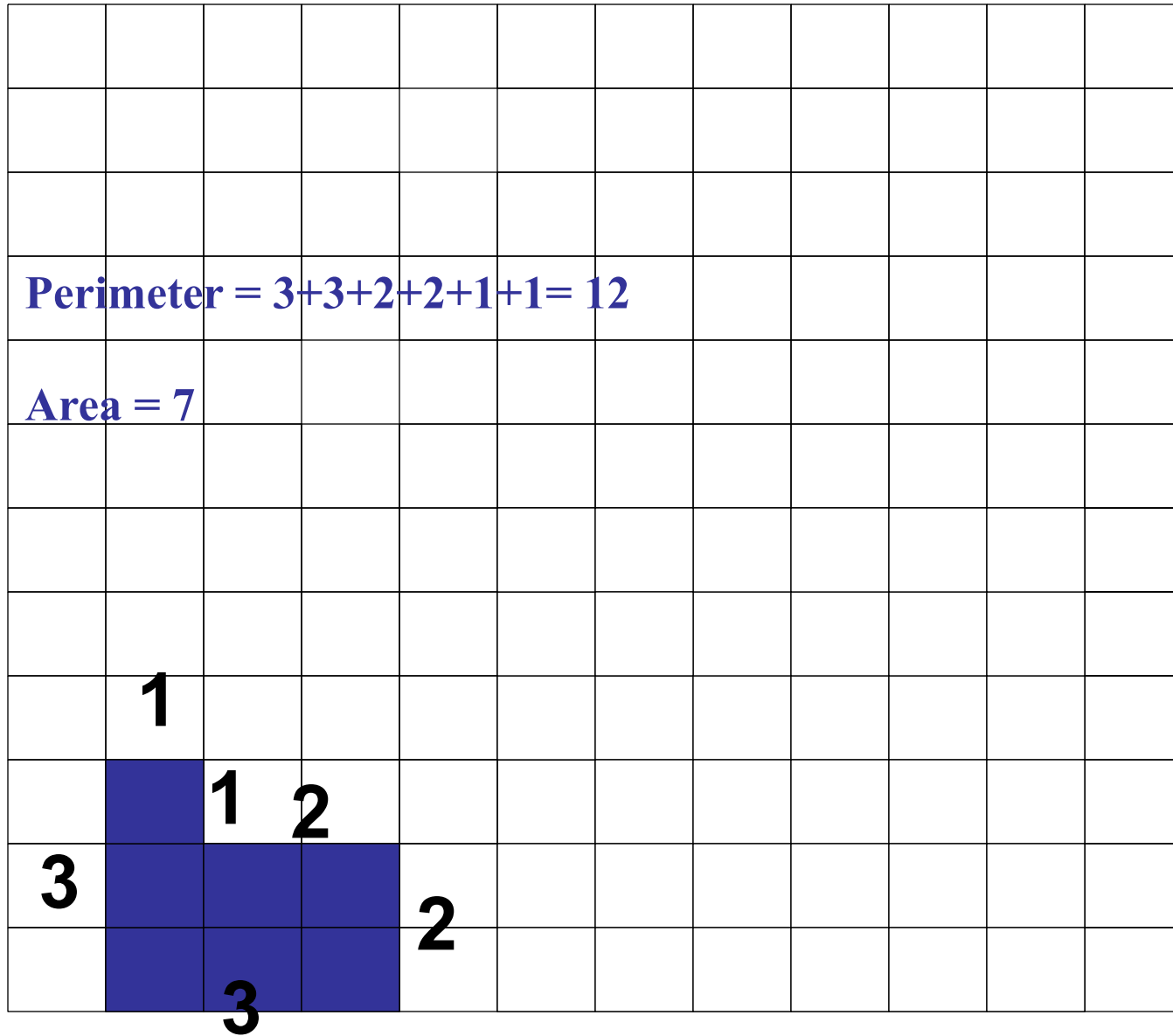
3) Scale Factor = 2



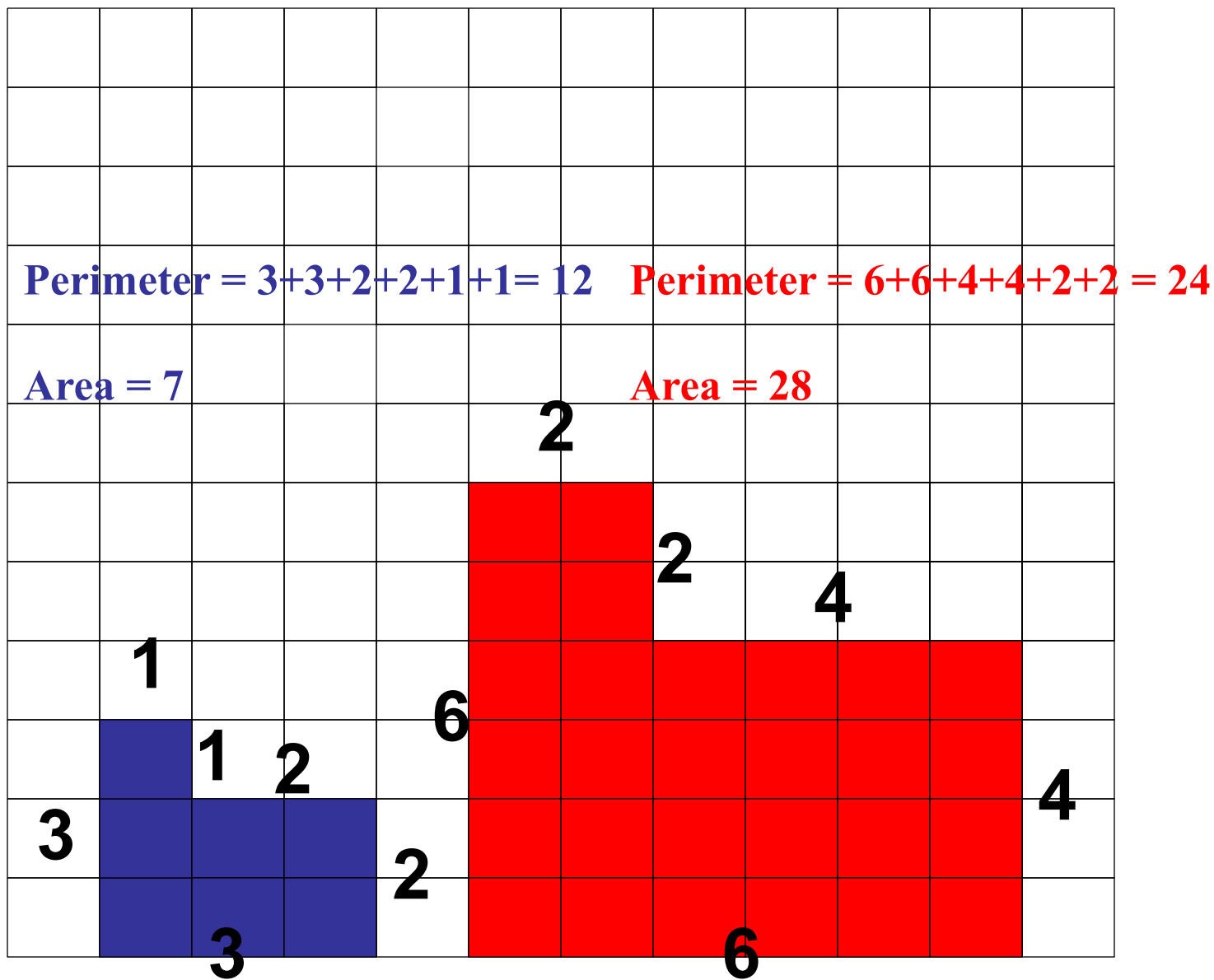
A 12x12 grid with a small blue shape in the bottom-left corner. The blue shape consists of 7 cells: a 2x2 square at the bottom-left, with an additional cell attached to the top of the leftmost column of this square, and another cell attached to the top of the second column from the left. The rest of the grid is white.



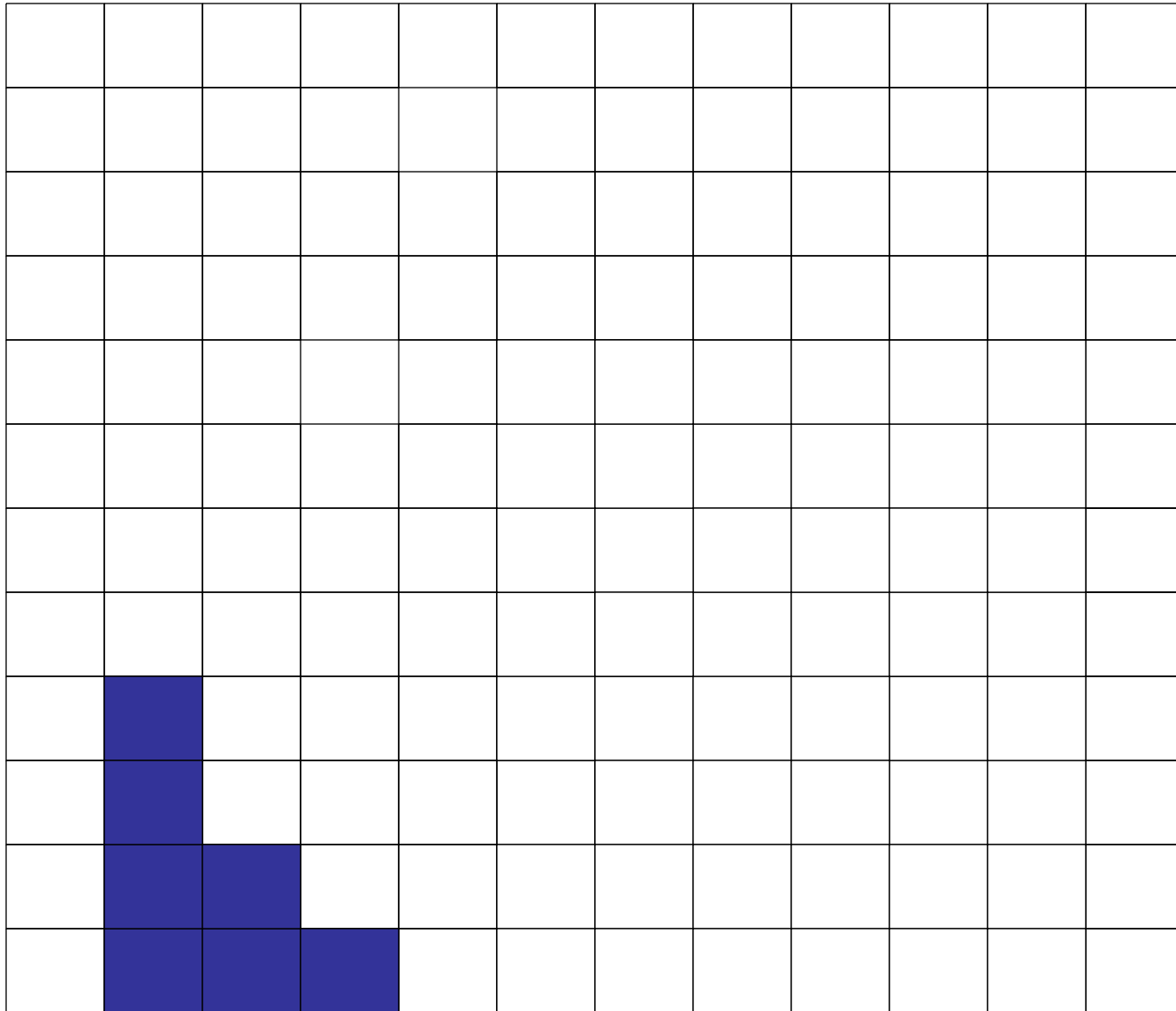
4) Scale Factor = 2



4) Scale Factor = 2



5) Scale Factor = 2

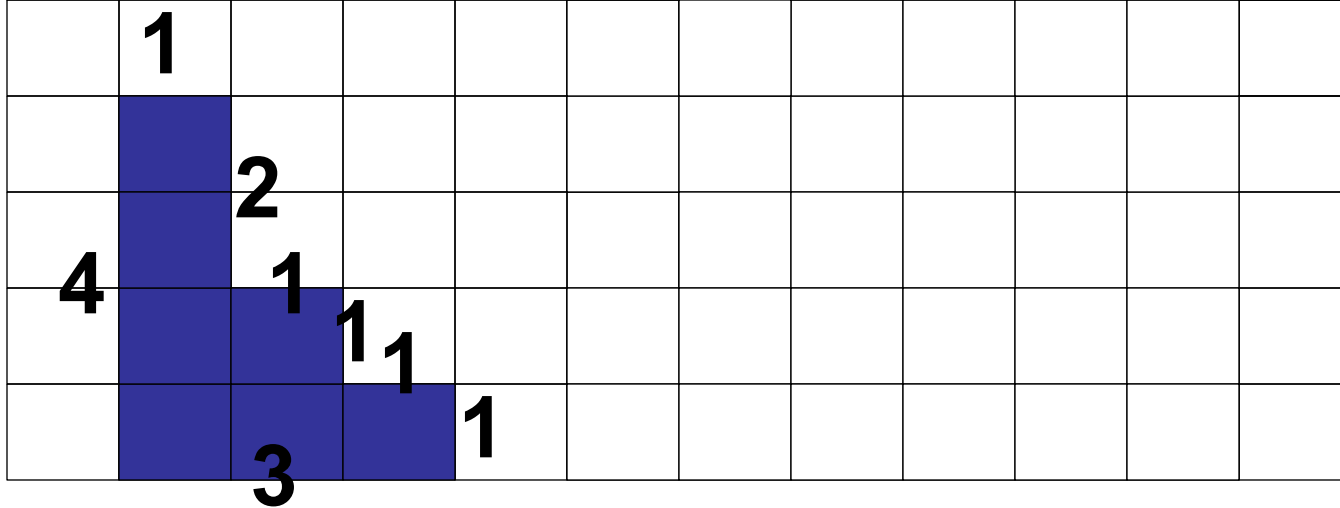


5) Scale Factor = 2

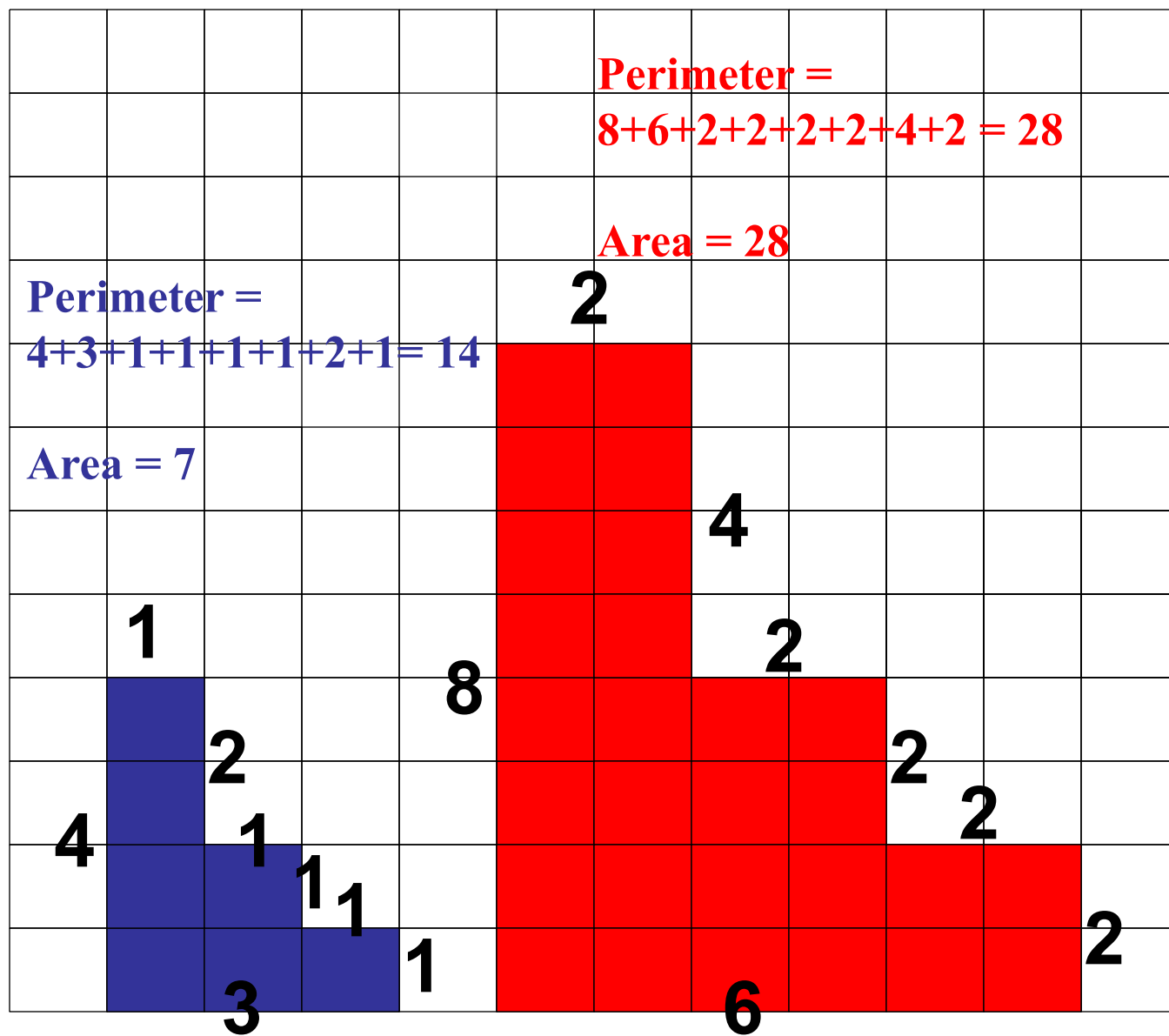
Perimeter =

~~4+3+1+1+1+1+2+1~~ = 14

Area = 7

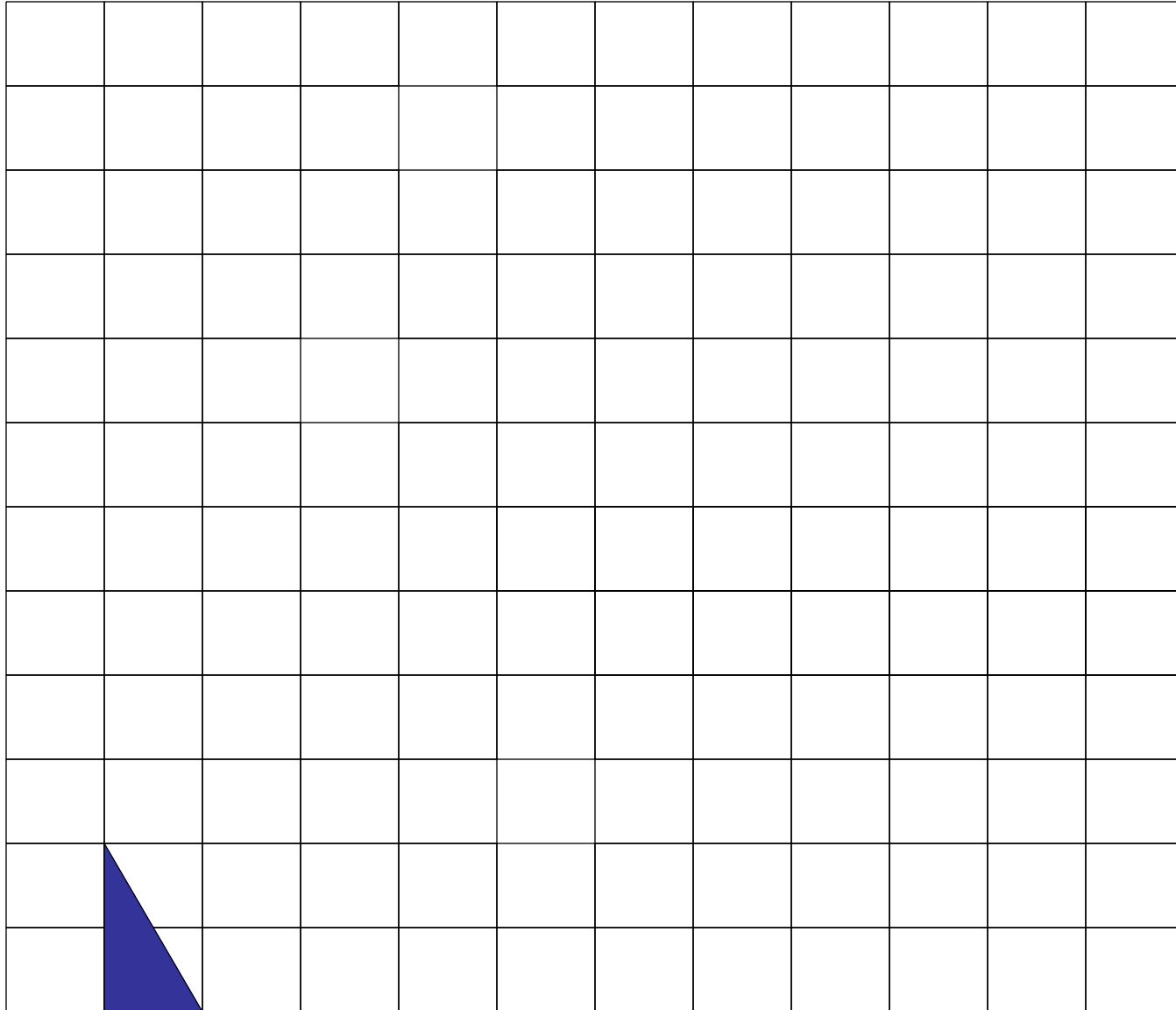


5) Scale Factor = 2



**You do not need to find
the perimeter on these
shapes.**

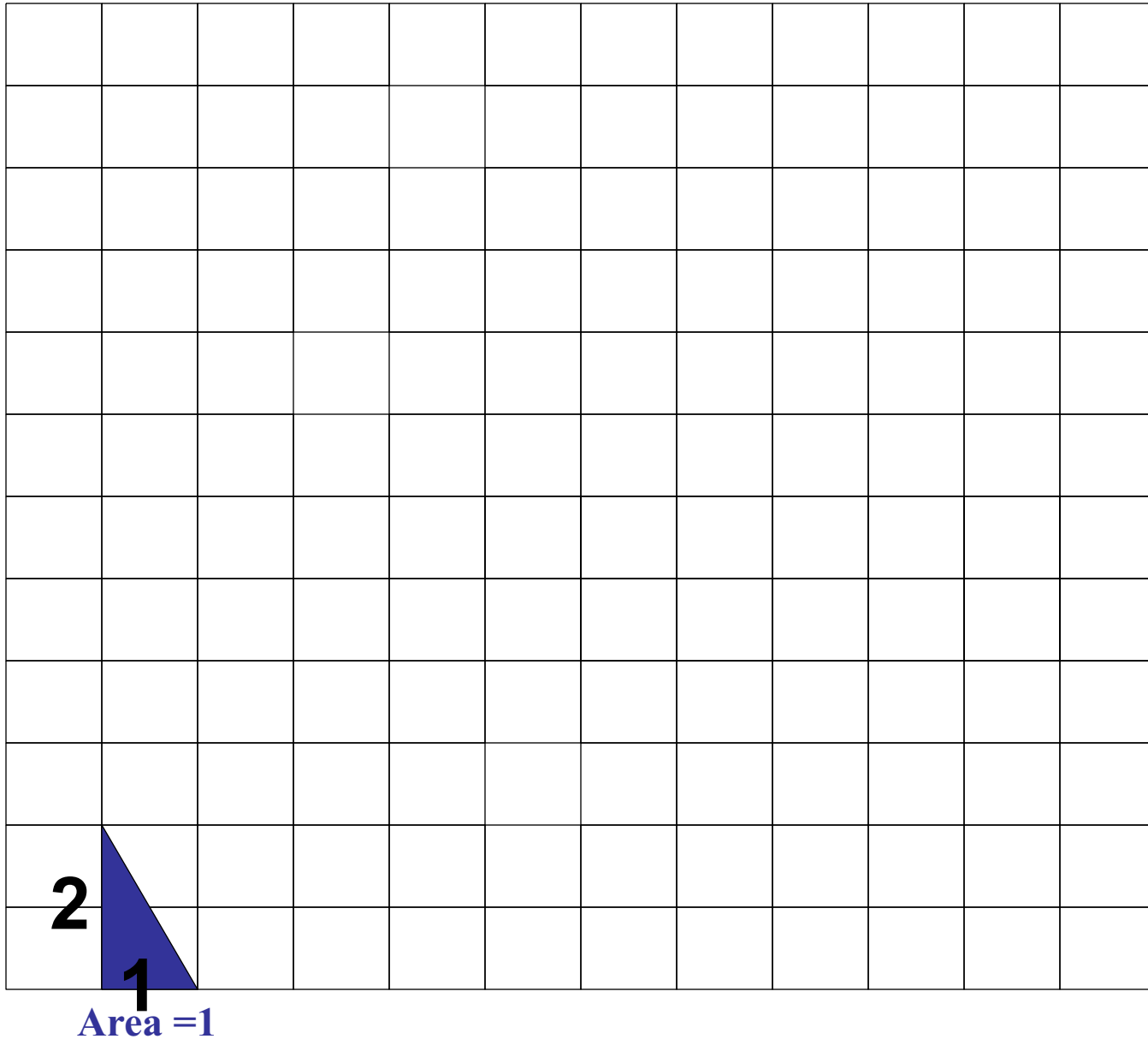
6) Scale Factor = 2



Area =1

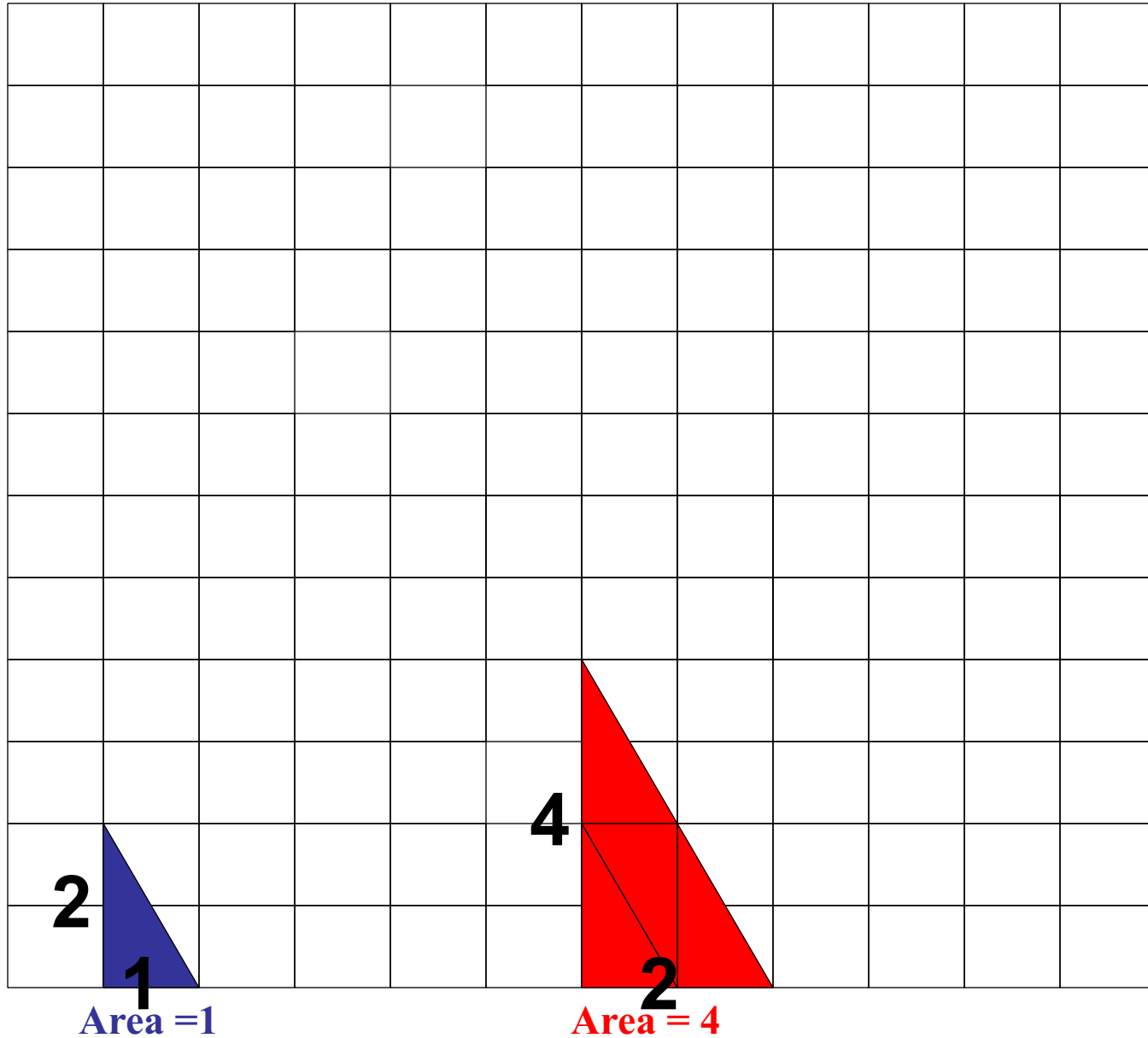
You do not need to find
the perimeter on these
shapes.

6) Scale Factor = 2



You do not need to find
the perimeter on these
shapes.

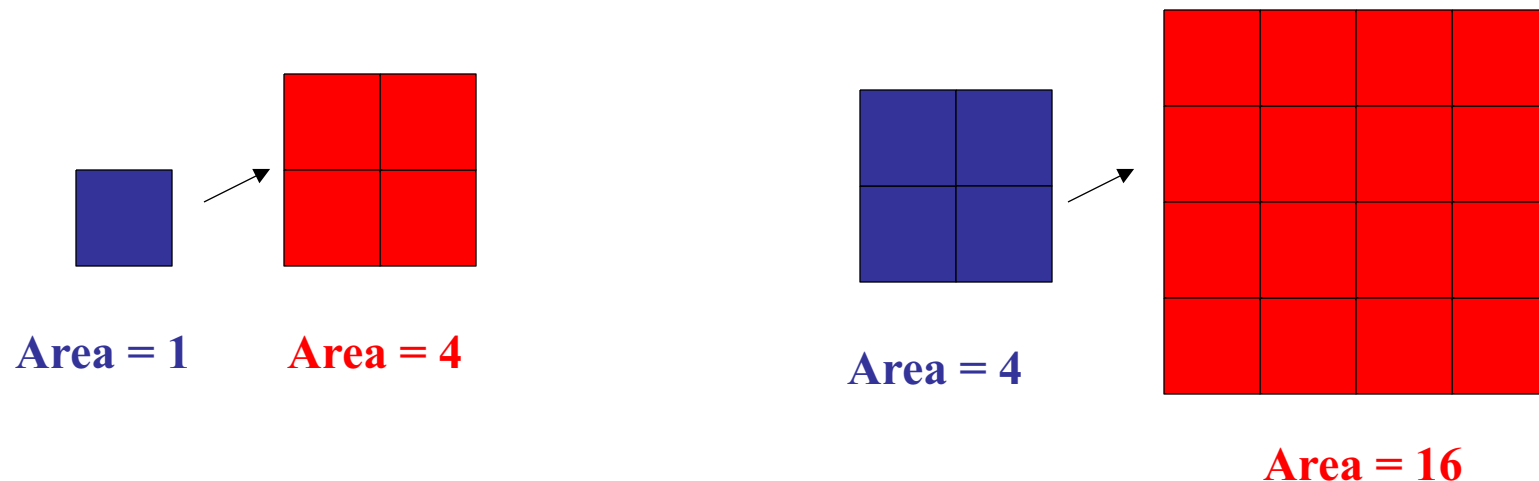
6) Scale Factor = 2



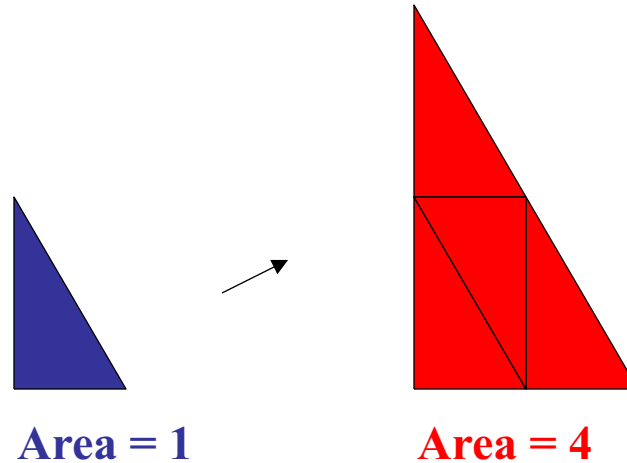
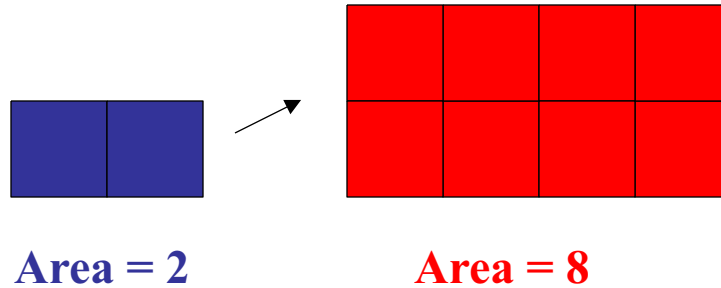
7) When you dilate a shape by a scale factor of 2, the length and width of the shape are doubled. How does the area of the dilated shape compare with the area of the original shape?

7) When you dilate a shape by a scale factor of 2, the length and width of the shape are doubled. How does the area of the dilated shape compare with the area of the original shape?

The dilated shape has an area that is 4 times greater than the area of the original shape.

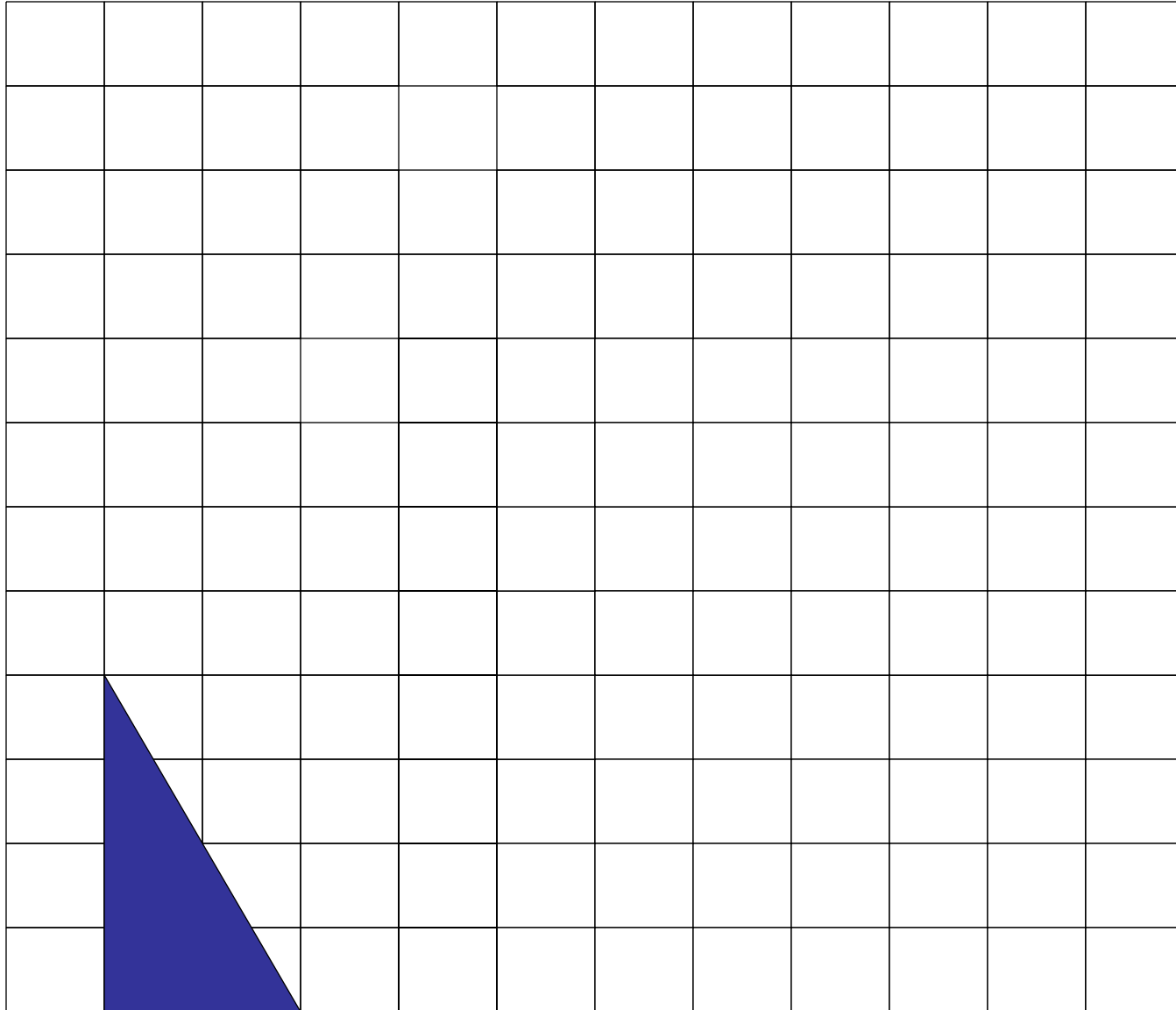


This property is true for all shapes.



**You do not need to find
the perimeter on these
shapes.**

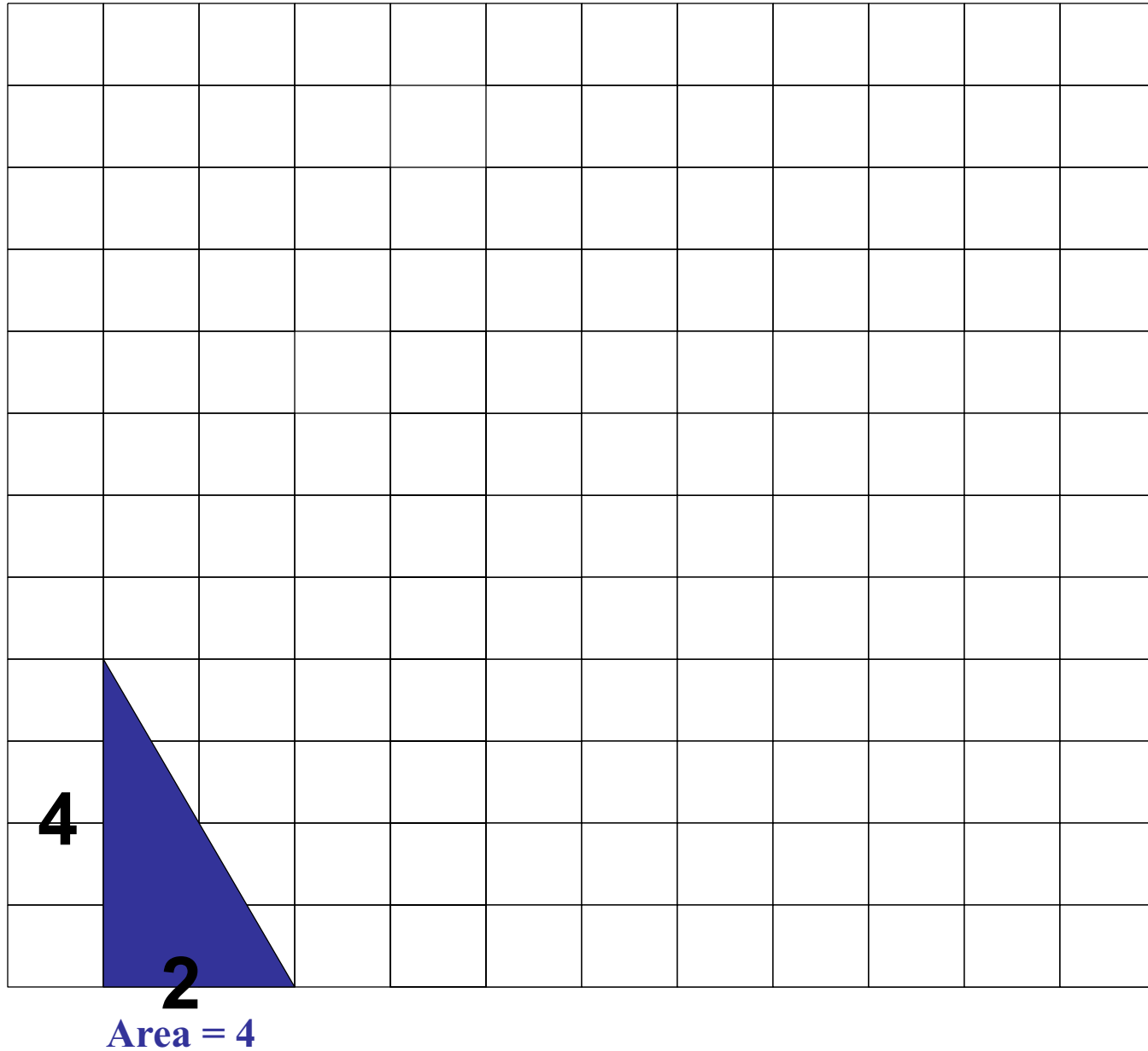
8) Scale Factor = 2



Area = 4

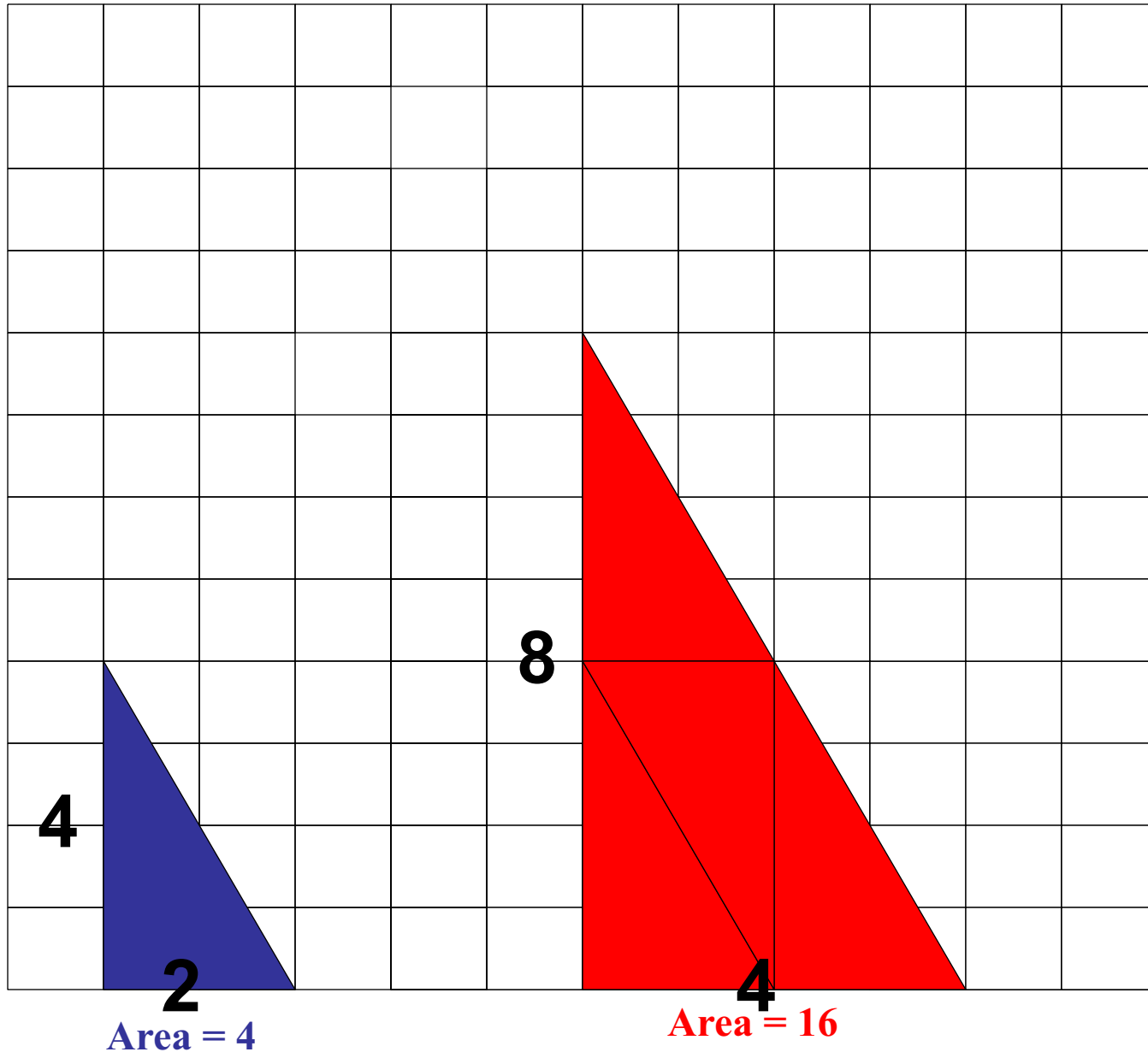
You do not need to find
the perimeter on these
shapes.

8) Scale Factor = 2



You do not need to find
the perimeter on these
shapes.

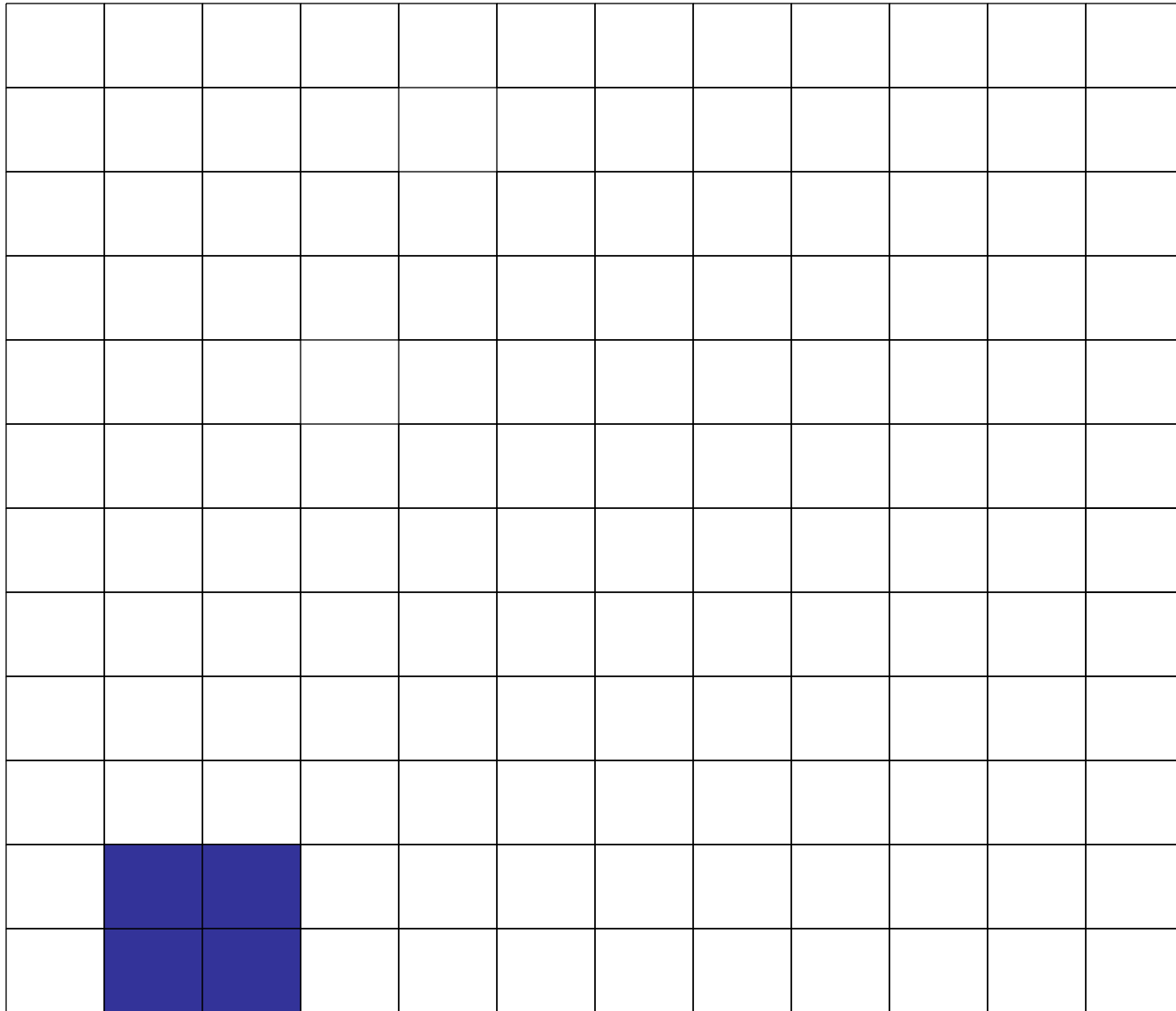
8) Scale Factor = 2



You do not need to find
the perimeter on these
shapes.

9) Scale Factor = 3

NOTE: New Scale Factor

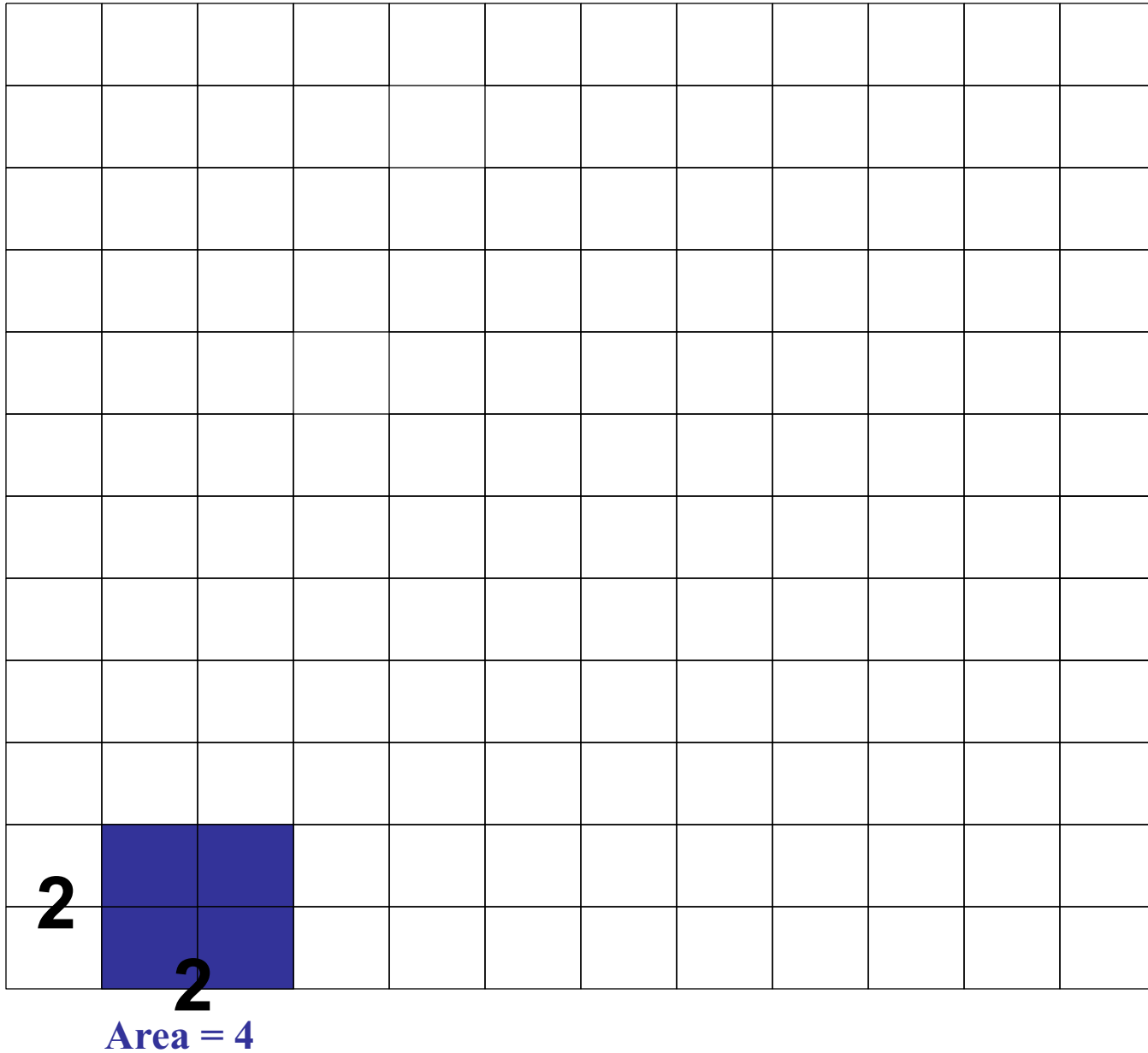


Area = 4

You do not need to find
the perimeter on these
shapes.

9) Scale Factor = 3

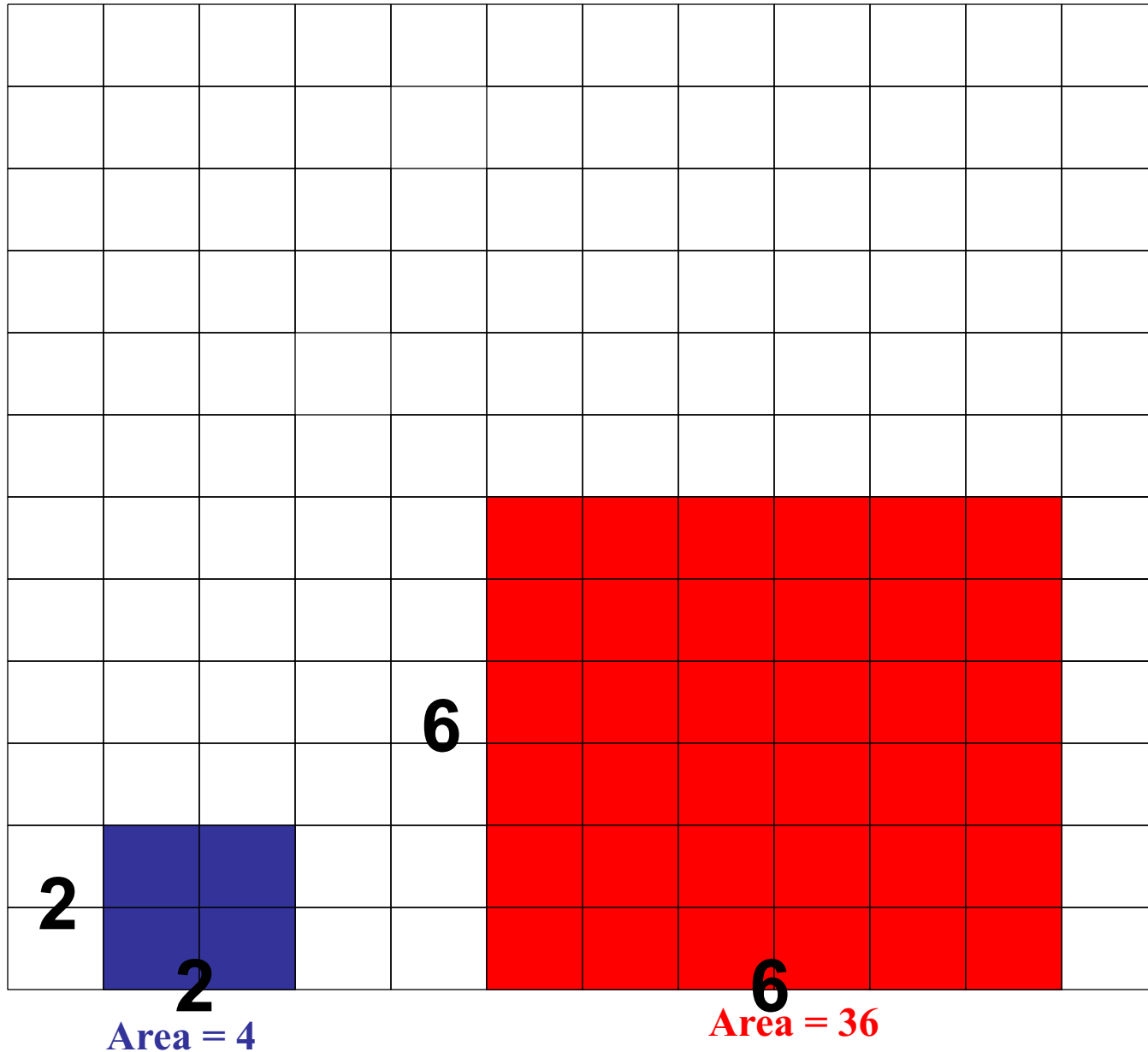
NOTE: New Scale Factor



You do not need to find
the perimeter on these
shapes.

9) Scale Factor = 3

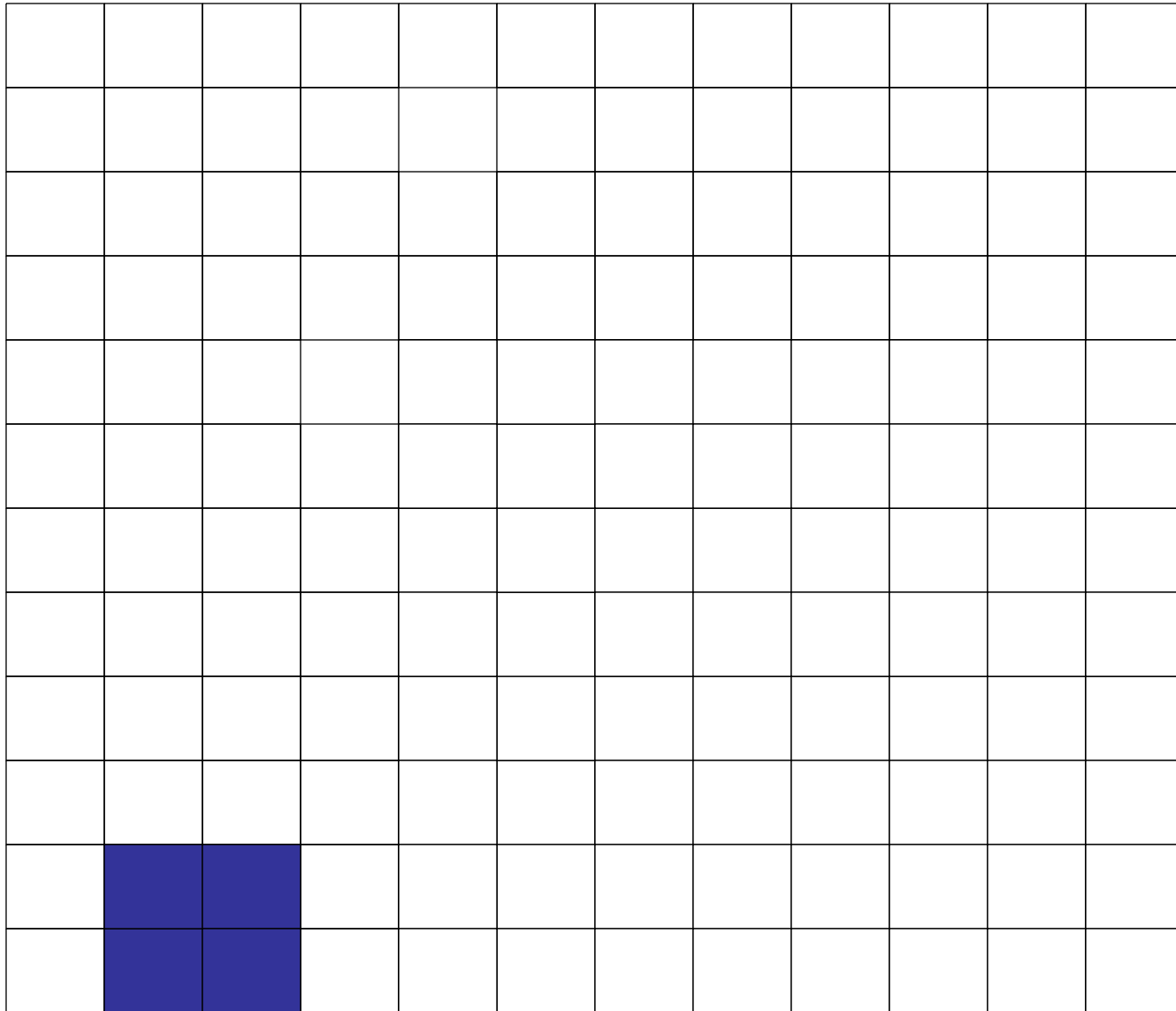
NOTE: New Scale Factor



**You do not need to find
the perimeter on these
shapes.**

10) Scale Factor = 4

NOTE: New Scale Factor

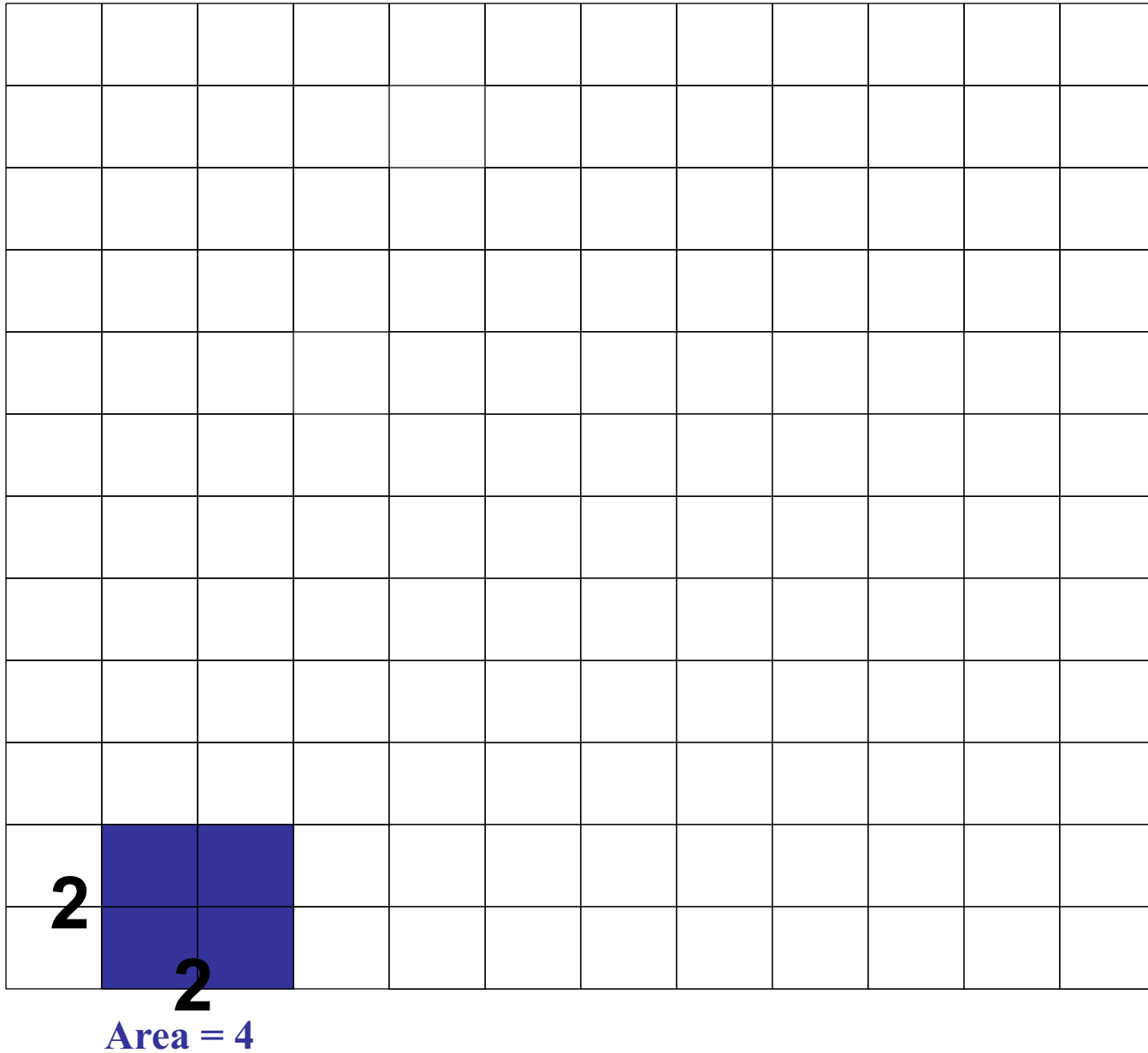


Area = 4

You do not need to find
the perimeter on these
shapes.

10) Scale Factor = 4

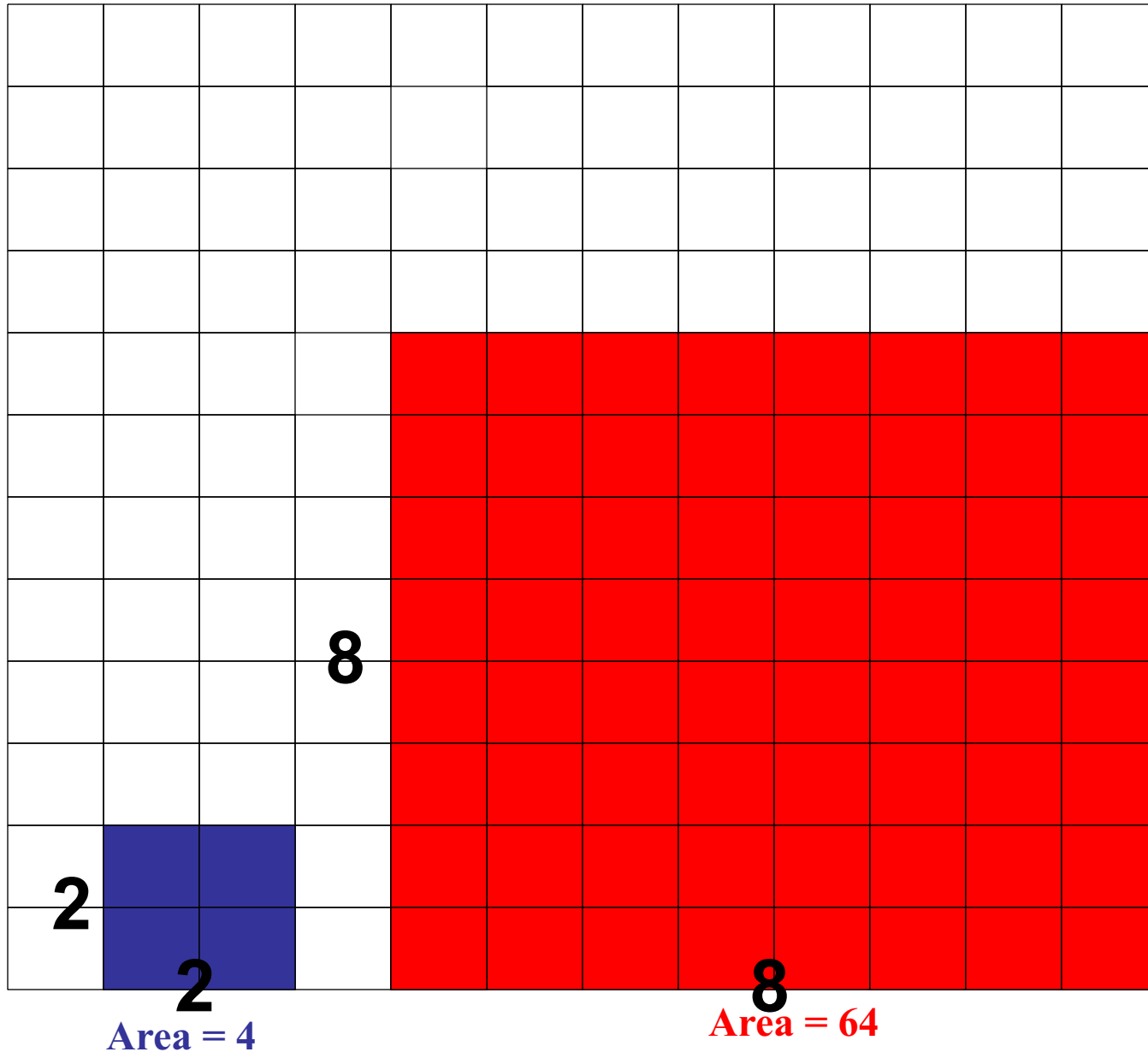
NOTE: New Scale Factor



You do not need to find
the perimeter on these
shapes.

10) Scale Factor = 4

NOTE: New Scale Factor



The End!

The End!

The End!