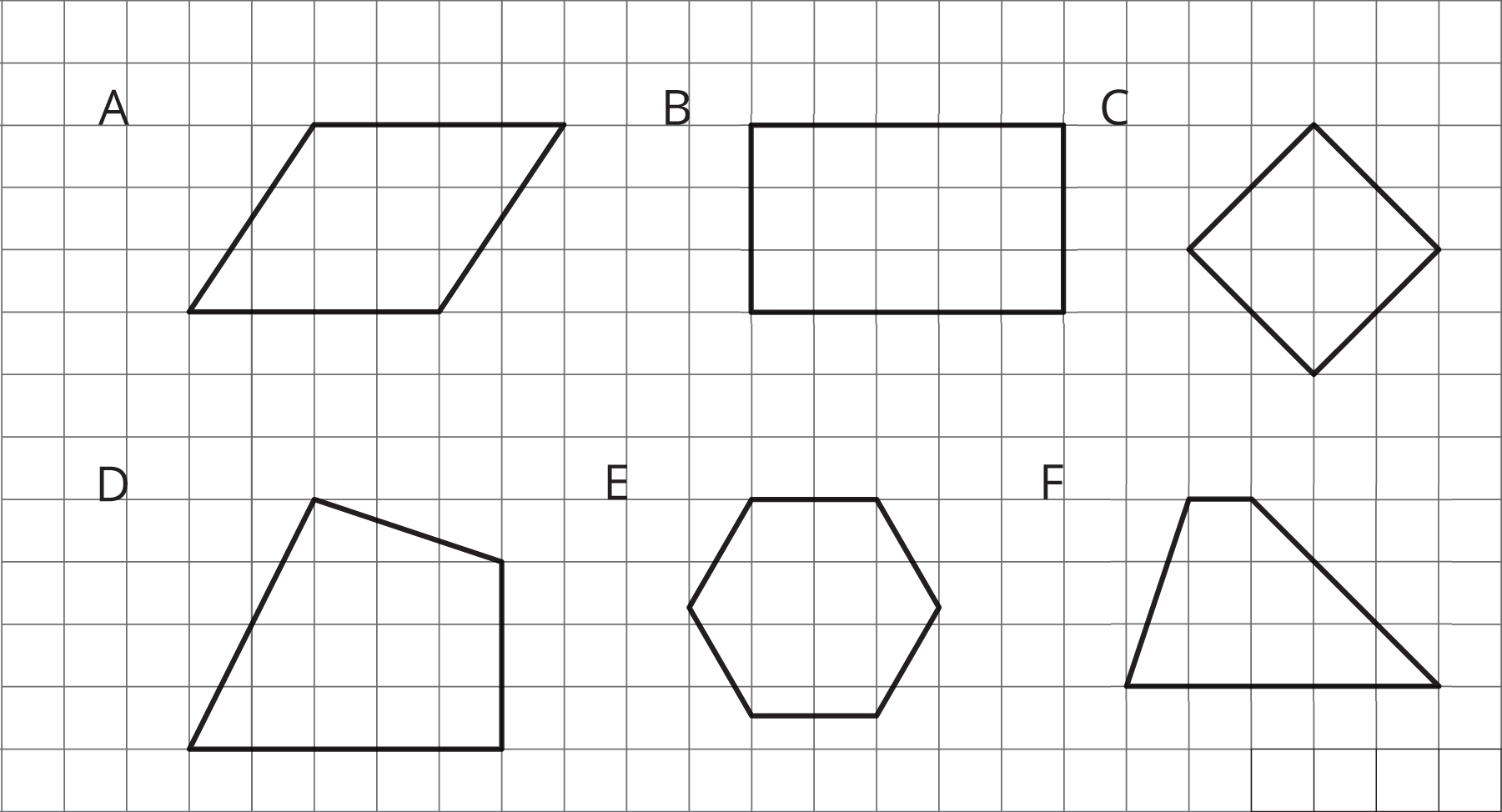
## Lesson 4: Parallelograms

Let’s investigate the features and area of parallelograms.

### 4.1: Features of a Parallelogram

Figures A, B, and C are **parallelograms**. Figures D, E, and F are *not* parallelograms.

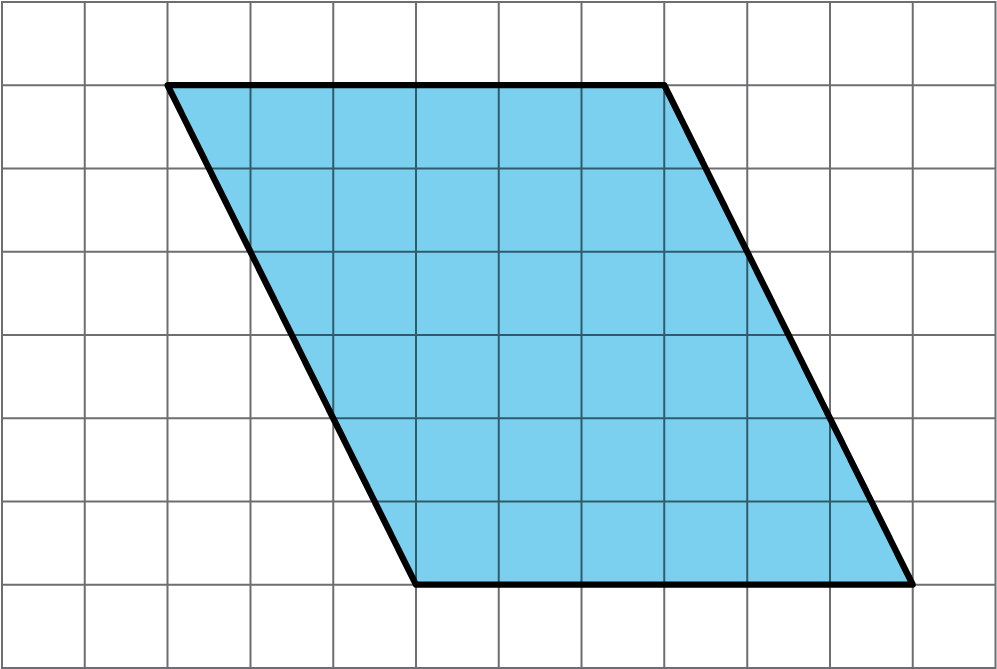


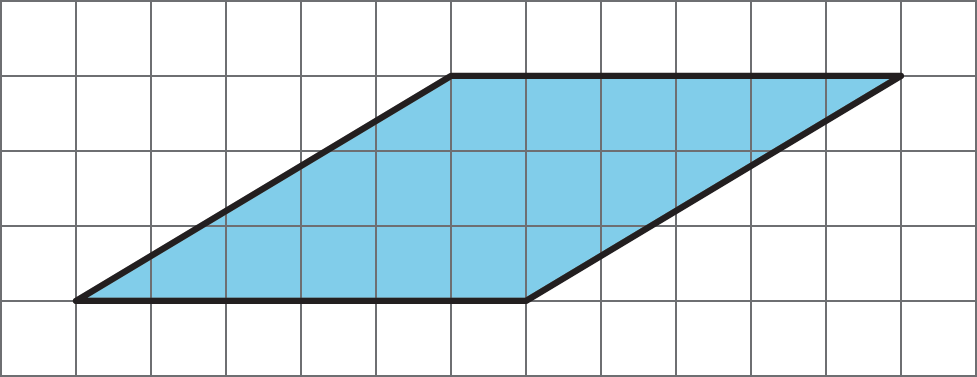
Study the examples and non-examples. What do you notice about:

1. the number of sides that a parallelogram has?
2. opposite sides of a parallelogram?
3. opposite angles of a parallelogram?

### 4.2: Area of a Parallelogram

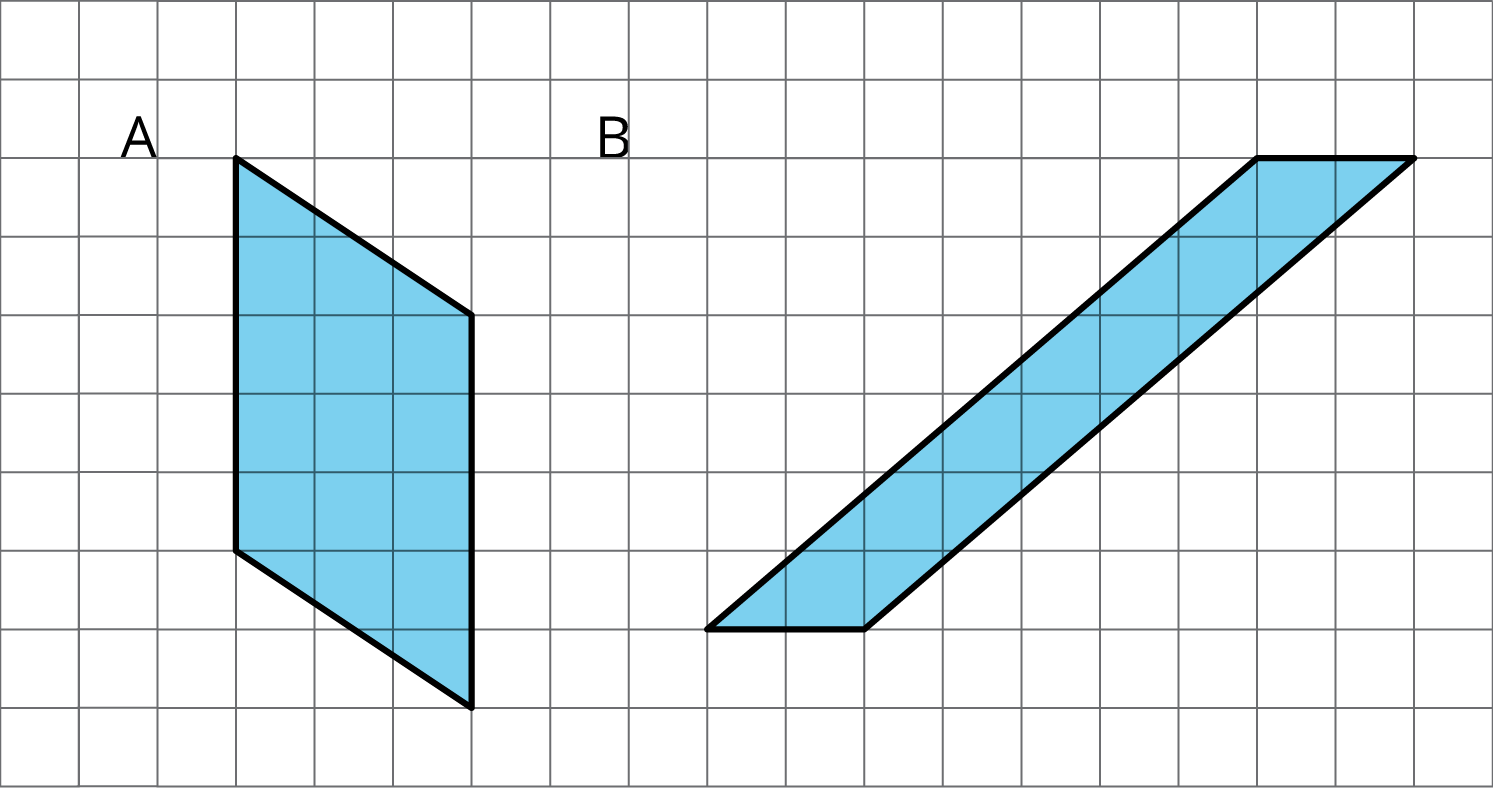
Find the area of each parallelogram. Show your reasoning.

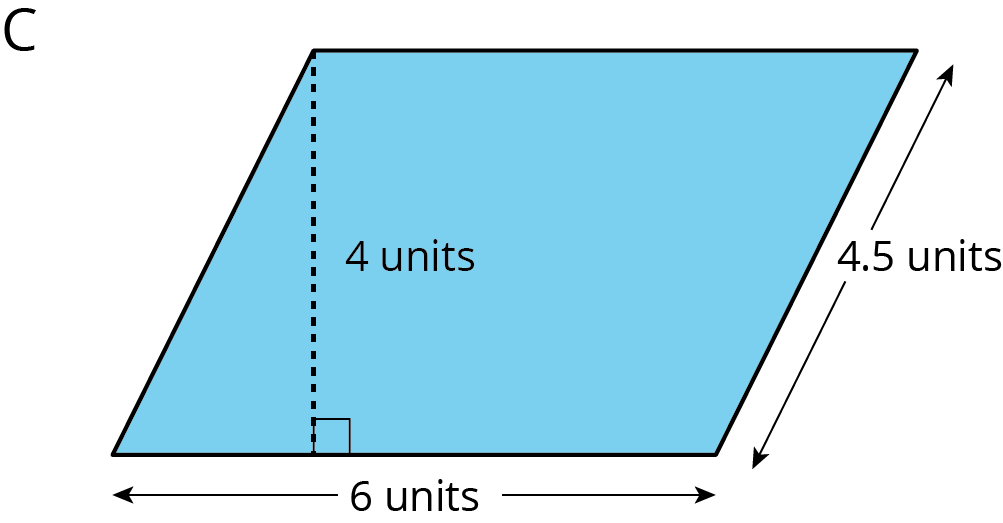




### 4.3: Lots of Parallelograms

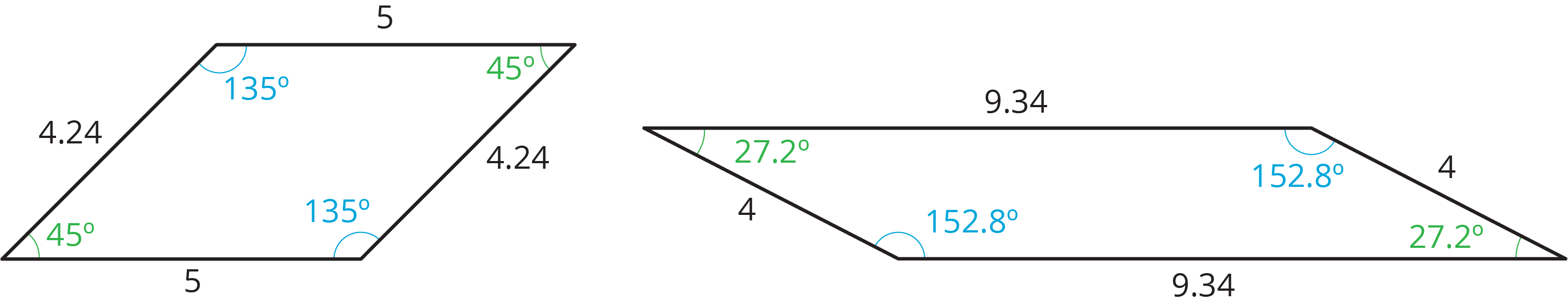
Find the area of each parallelogram. Show your reasoning.



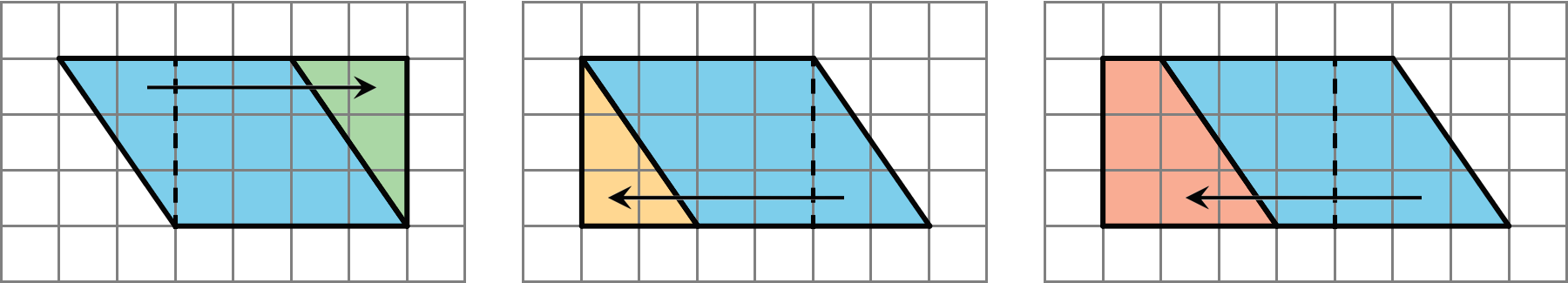
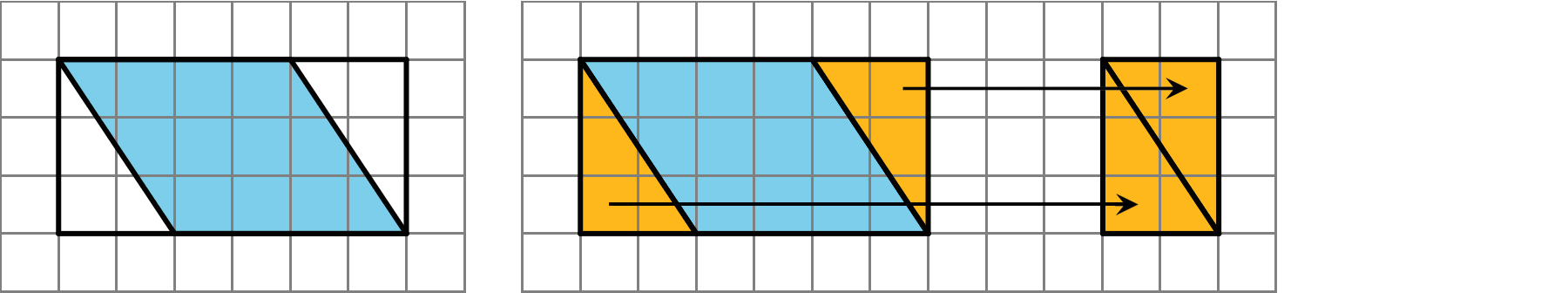


### Lesson 4 Summary

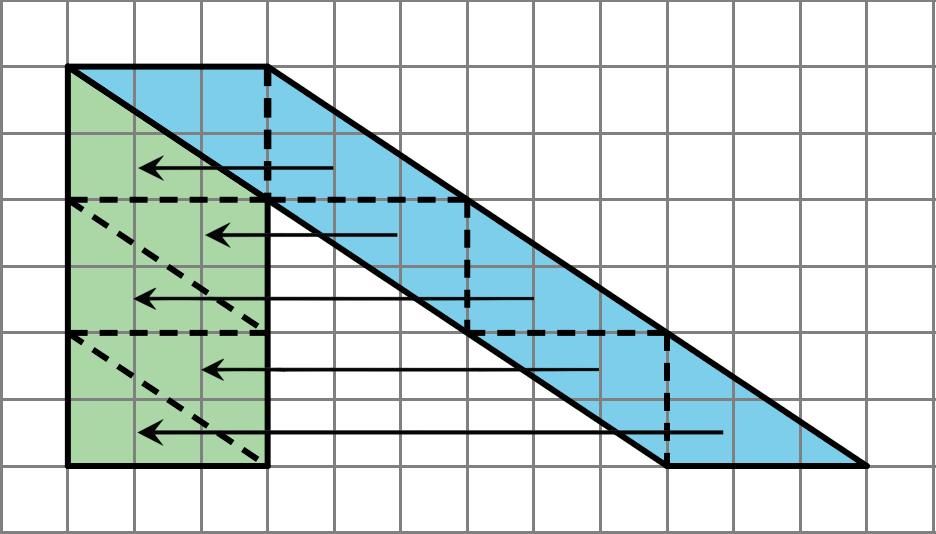
A **parallelogram** is a quadrilateral (it has four sides). The opposite sides of a parallelogram are parallel. It is also true that the opposite sides of a parallelogram have equal length, and the opposite angles of a parallelogram have equal measure.



There are several strategies for finding the area of a **parallelogram**.

* We can decompose and rearrange a parallelogram to form a rectangle. Here are three ways:
* 
* We can enclose the parallelogram and then subtract the area of the two triangles in the corner.
* 

Both of these ways will work for any parallelogram. However, for some parallelograms the process of decomposing and rearranging requires a lot more steps than if we enclose the parallelogram with a rectangle and subtract the combined area of the two triangles in the corners.





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