

Playing with pentominoes

Using the following pentominoes **template** and classroom **worksheet**, discuss answers with the class, looking for these kinds of responses:

What did you notice about the area of each shape?

The area is the same each time. Always 5.

Why do you think that is?

Because 5 squares of 1 square unit are used each time.

What did you notice about the perimeter of each shape?

It's not always the same. Usually 12, but the P shape was 10 (P was more compressed/folded up than the other shapes).

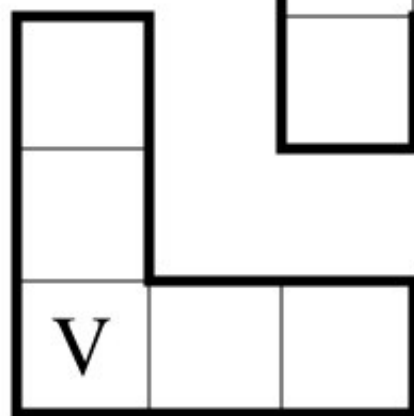
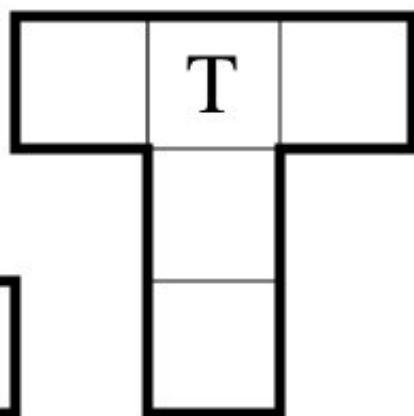
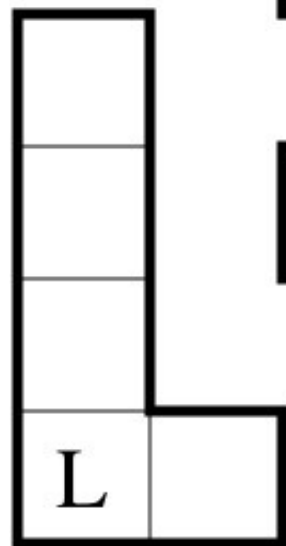
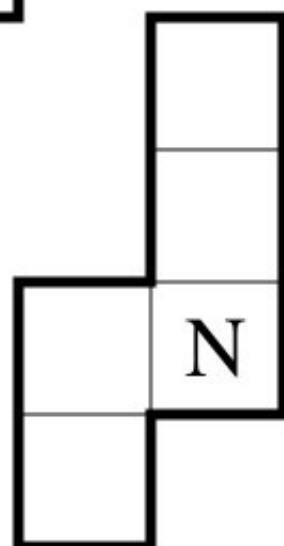
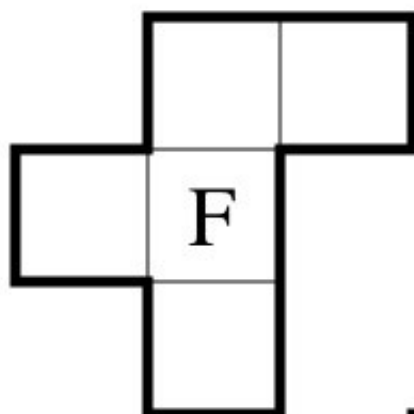
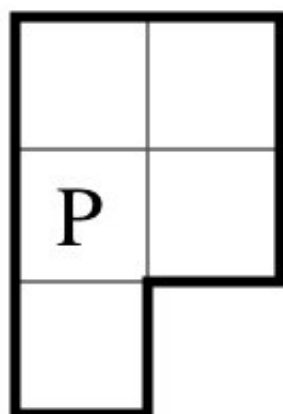
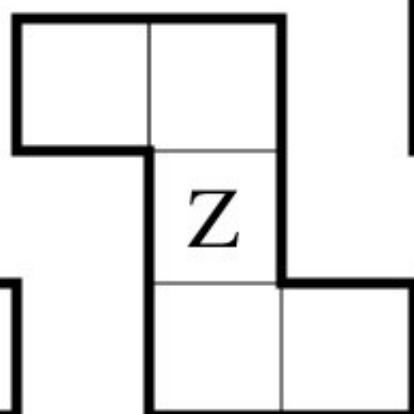
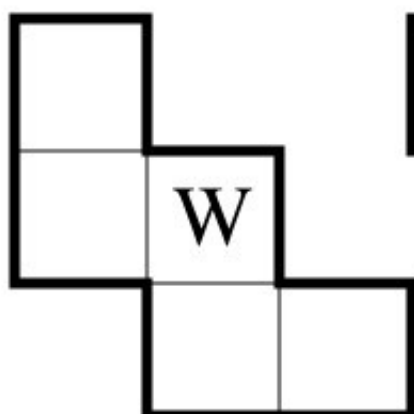
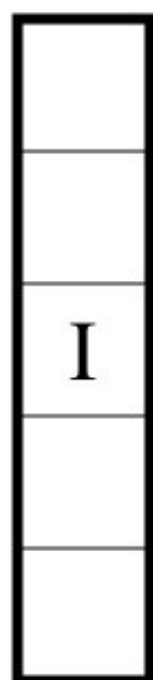
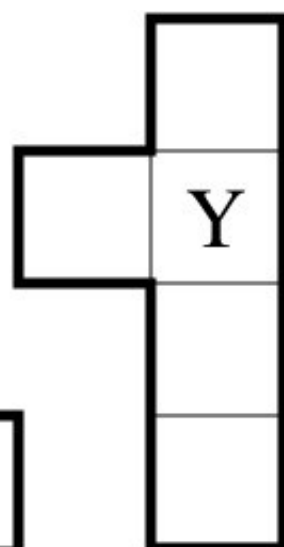
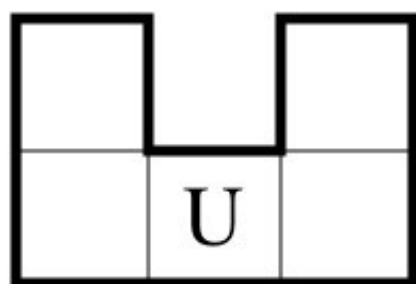
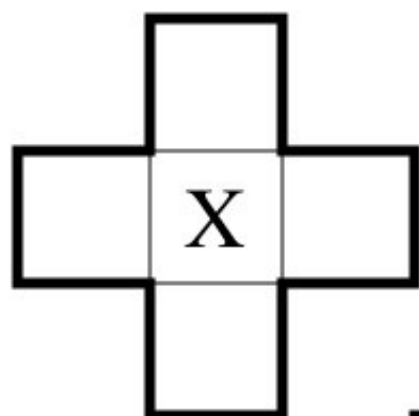
What could you say about the perimeter and area of different shapes?

Two shapes with the same area don't have to have the same perimeter.

Next cue: Do you think it's true for the other way around? Could two shapes with the same perimeter have a different area?

Try it using a 5 x 5 square (area of 25, perimeter of 20).

Looking for stairs of some sort – most likely evidence for the conclusion that two shapes can have the same perimeter but have a different area.



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Draw the shape	Calculate the perimeter (call the side of a small square one unit)	Calculate the area in square units

What did you notice about the area of each shape?

Why do you think that is? What did you notice about the perimeter of each shape?

What could you say about the perimeter and area of different shapes?
