

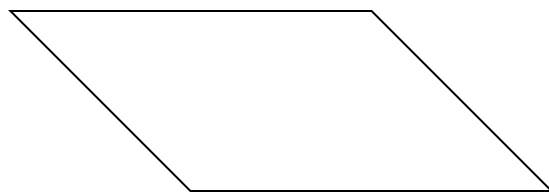
Use Logical Reasoning
Act Out or Use Objects



Tangrams

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Professor Relic was digging in the ruins of a lost city when he found a piece of an ancient tile. The piece looked like this:



He knew that this piece had an area $\frac{1}{6}$ the area of the whole tile, which was in the shape of a trapezoid. The piece he found was congruent with the tangram parallelogram. What could the ancient tile have looked like?

Make the tile with tangram pieces. Then draw it on the dot array. More than one solution is possible.



FIND OUT

What do you have to find out to solve the problem?

What does the problem tell you about the shape of the whole tile?

CHOOSE STRATEGIES

You can **Use Logical Reasoning** and **Act Out or Use Objects** to help you solve this kind of problem. Use tangram pieces to make the shape.

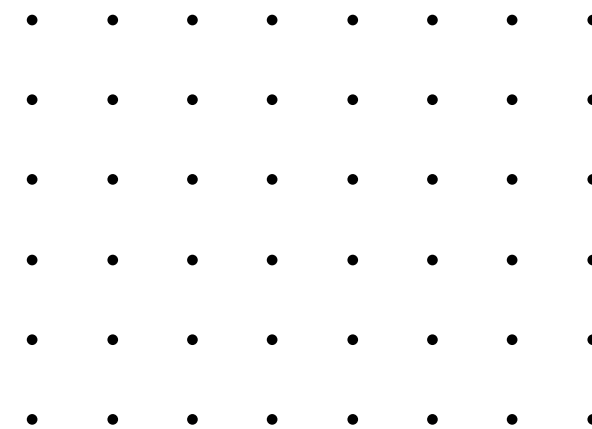
SOLVE IT

1. Take the tangram piece that is congruent with the piece that the professor found. What part of the total area of the shape does it show?
2. If the parallelogram has an area of 1 unit, then what other shapes have an area of 1 unit?
3. What pieces put together have an area of 1 unit?
4. How many units of area does the large triangle have?

5. How many units of area does the trapezoid tile need to have?

6. Try putting together different groups of tangram pieces, until you show a trapezoid with an area of 6 units.

7. What could the ancient tile have looked like? Draw it on the dot array.



LOOK BACK

- Read the problem again.
- Check over your work.
- Did you answer the question that was asked?
- Does your answer make sense?