Picture Puzzles

MEASURING WITH SPHINX

Picture Puzzles

Picture Puzzles

Creator ... Doug. Williams
Publisher ... Mathematics Centre

This Picture Puzzle is based on
... Task 166, Sphinx
Teaching Notes
... mathematicscentre.com/picturepuzzles/teachingnotes

Picture Puzzles

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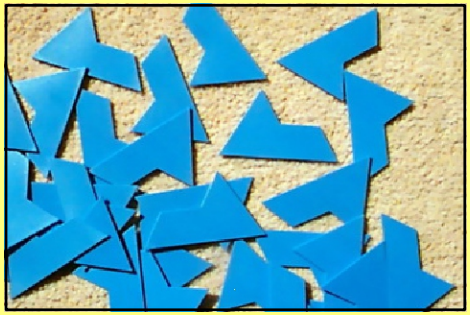
To Do

1. Count triangles to find the area of Sphinx shapes.
2. Count triangle sides to find the perimeter of Sphinx shapes.
3. Try some area and perimeter puzzles.

You Need

- Eight Sphinx shapes
- Triangle graph paper



Sphinx shapes

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A Sphinx is made from 6 equilateral triangles.

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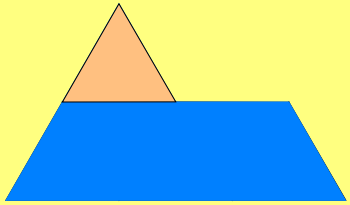

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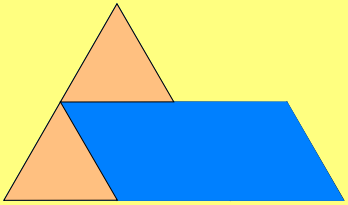

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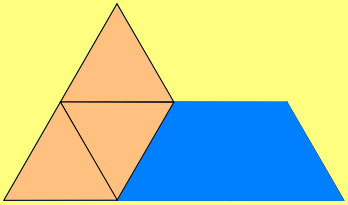

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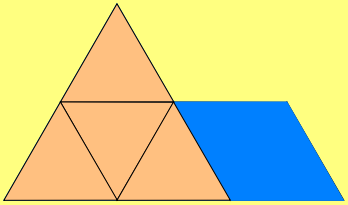

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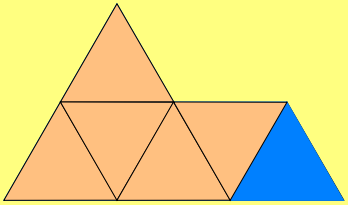

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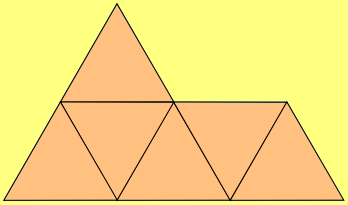

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The area of a Sphinx is 6 equilateral triangles.

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Perimeter is counted by sides of the triangle.

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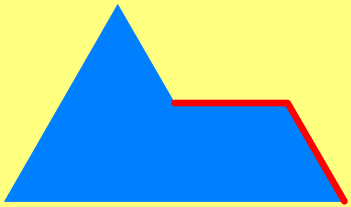

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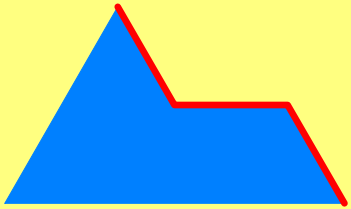

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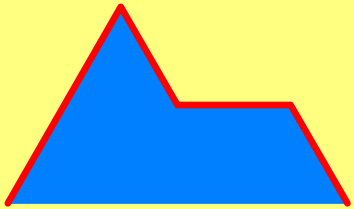

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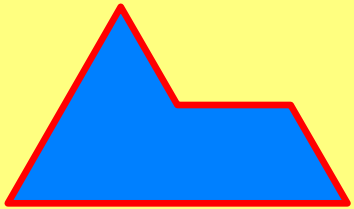

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The perimeter of a Sphinx is 8 sides of a triangle.

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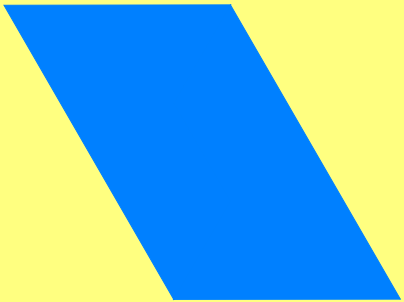
Make this shape.



Count its area and perimeter.

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Make this shape.

Count its area and perimeter.

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Make this shape.

Count its area and perimeter.

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Make more shapes with two Sphinxes.

Draw each one and count its perimeter.

Find a way to calculate the perimeter without counting.

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Make this shape.

Find its area and perimeter in two ways.

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Make this shape.

Find its area and perimeter in two ways.

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more

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The area of a Sphinx shape is 12 triangles?

What is its smallest possible perimeter? (minimum)

What is its largest possible perimeter? (maximum)

Make and draw 1 minimum shape & 1 maximum shape.

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The area of a Sphinx shape is 18 triangles?

What is its smallest possible perimeter? (minimum)

What is its largest possible perimeter? (maximum)

Make and draw 1 minimum shape & 1 maximum shape.

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The area of a Sphinx shape is 24 triangles?

What is its smallest possible perimeter? (minimum)

What is its largest possible perimeter? (maximum)

Make and draw 1 minimum shape & 1 maximum shape.

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Make and draw one shape for each possible perimeter between the minimum and the maximum for a Sphinx shape with an area of 24.

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even more

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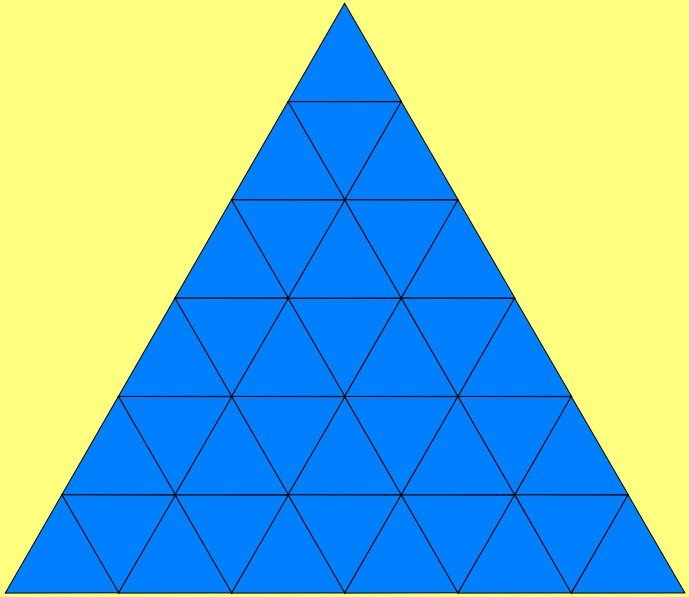
What is the formula for area of an equilateral



triangle if area is measured by unit triangles?

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THE END...

...OR IS IT?

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