

TETRAHEDRON TRIANGLES

Picture Puzzles

Creator ... Doug. Williams
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This Picture Puzzle is based on
... Task 186, *Tetrahedron Triangles?*
Teaching Notes
... mathematicscentre.com/picturepuzzles/teachingnotes

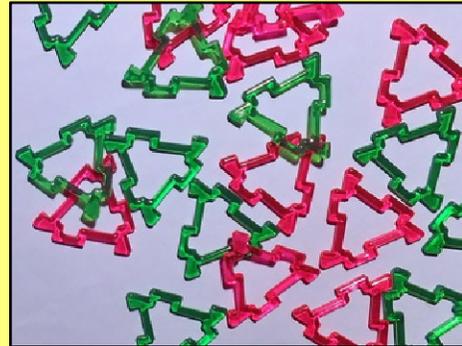
Picture Puzzles

To Do

1. Look for an organised way to count unit triangles.
2. Look for a pattern in your answers.
3. Use the pattern to predict.

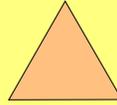
You Need

- Equilateral triangle shapes
- Triangle graph paper



MiniGeofix

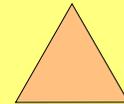
Picture Puzzles



Size 1

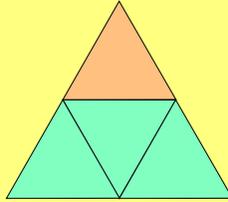
1 Triangle

In this puzzle only count triangles this size ...



Picture Puzzles

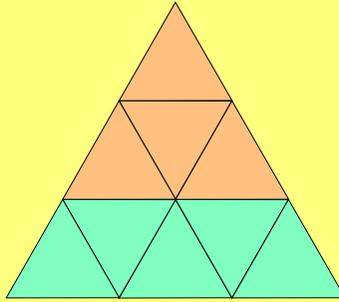
Size 2



4 Triangles

Picture Puzzles

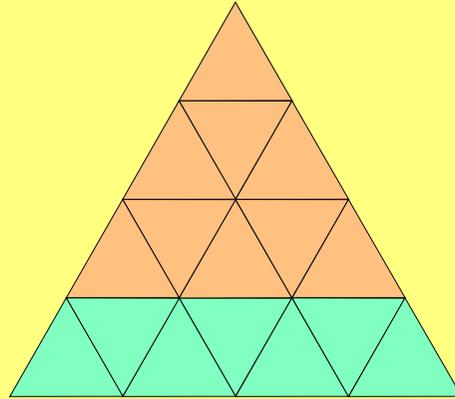
Size 3



9 Triangles

Picture Puzzles

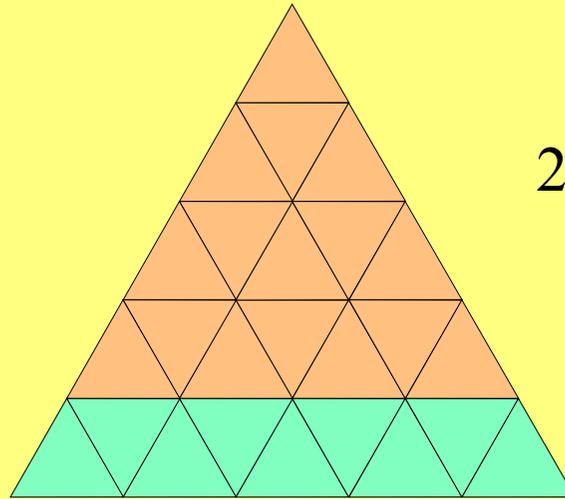
Size 4



16 Triangles

Picture Puzzles

Size 5

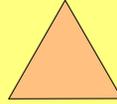


25 Triangles

Predict the number of triangles for Size 6.

Next, look at the pattern another way...

Picture Puzzles

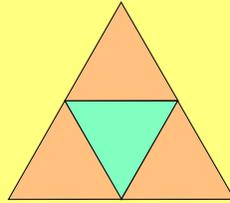


Size 1

1 Triangle

Picture Puzzles

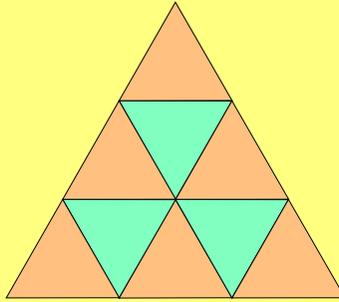
Size 2



4 Triangles

Picture Puzzles

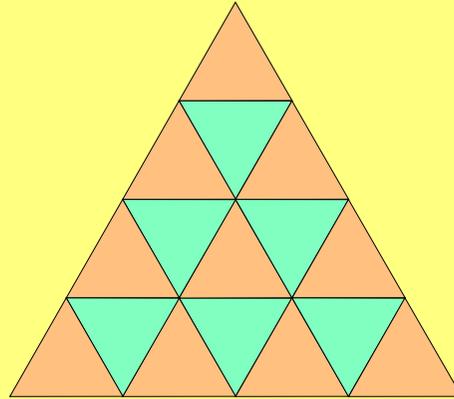
Size 3



9 Triangles

Picture Puzzles

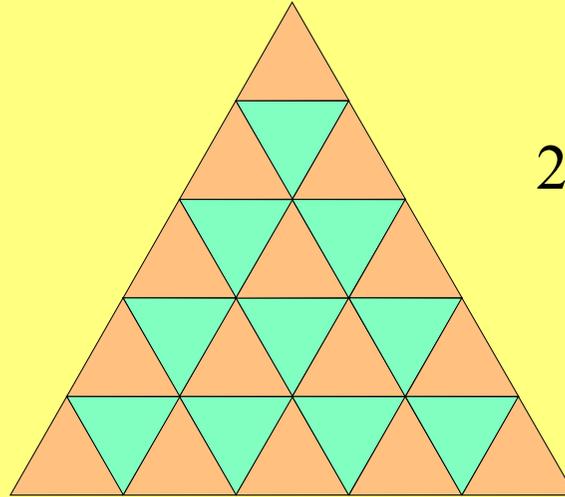
Size 4



16 Triangles

Picture Puzzles

Size 5



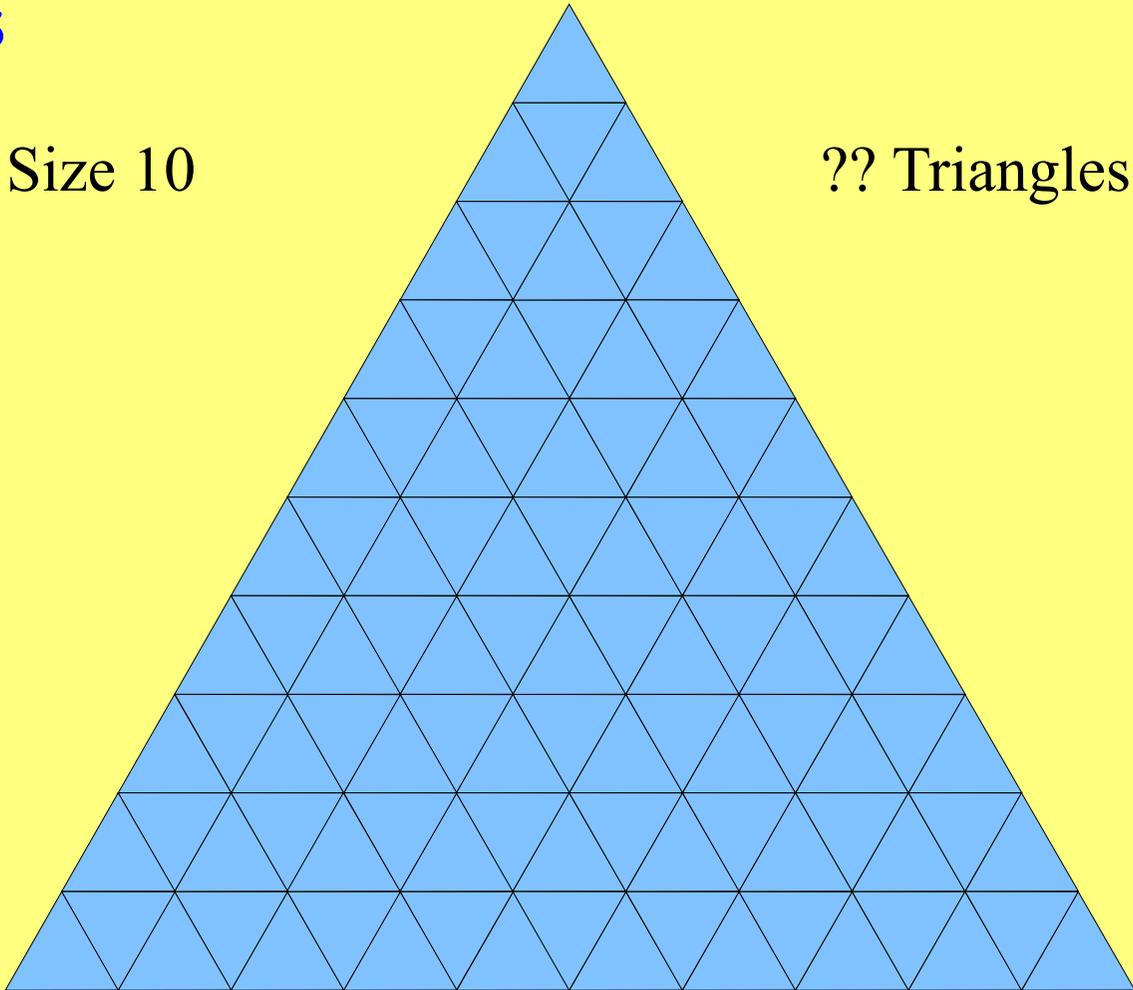
25 Triangles

Predict the number of triangles for Size 6.

Picture Puzzles

Size 10

?? Triangles



- in two ways -

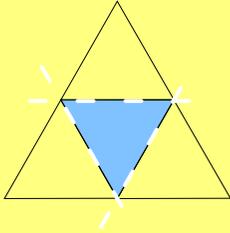
Picture
Puzzles

**If I tell you any Size large triangle,
can you tell me how to calculate the
Number of triangles that make it?**

**Picture
Puzzles**

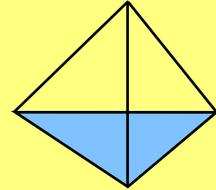
more

**Picture
Puzzles**

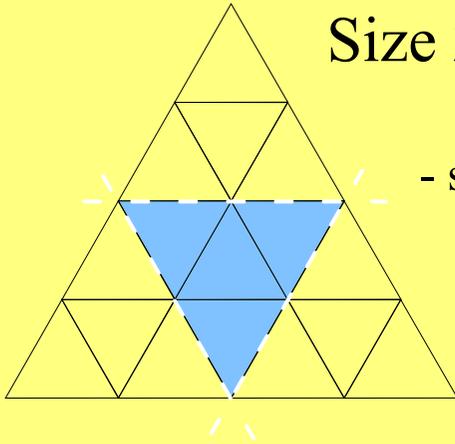


Size 1 Tetrahedron

- sides fold up -

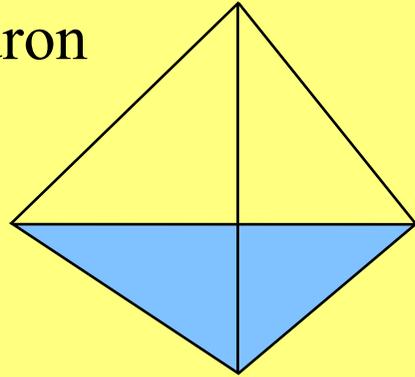


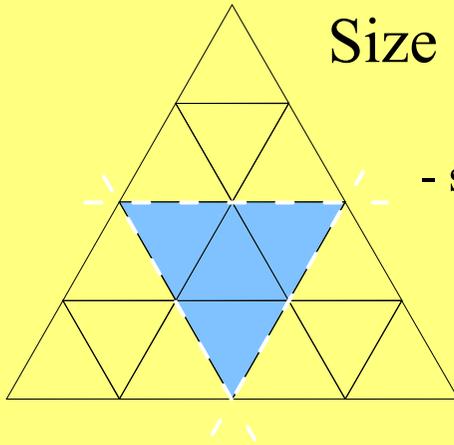
Picture Puzzles



Size 2 Tetrahedron

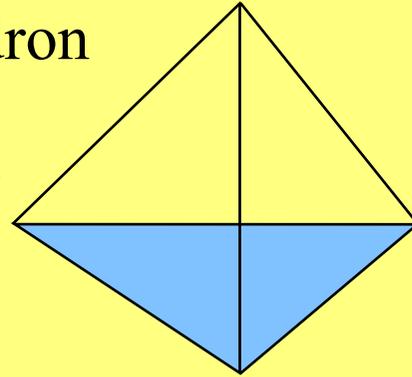
- sides fold up -





Size 2 Tetrahedron

- sides fold up -



**If I tell you any Size tetrahedron,
can you tell me how to calculate the
Number of triangles that make it?**

Picture Puzzles

THE END...

...OR IS IT?

Picture
Puzzles