

**HOW MANY TRIANGLES?**

# Picture Puzzles

Creator ... Doug. Williams

Publisher ... Mathematics Centre ... [mathematicscentre.com](http://mathematicscentre.com)

© Doug. Williams

## COPYRIGHT AGREEMENT

This publication is free of copyright restrictions.

It may be copied and distributed freely in perpetuity.

Reasonable costs relevant to delivery may be applied by prior arrangement with the receiver.

The preceding paragraph overrides any previous copyright provision in earlier versions.

Prepared for free public domain distribution February 2025.

This Picture Puzzle is based on

... Task 48, *How Many Triangles?*

Teaching Notes

... [mathematicscentre.com/picturepuzzles/teachingnotes](http://mathematicscentre.com/picturepuzzles/teachingnotes)

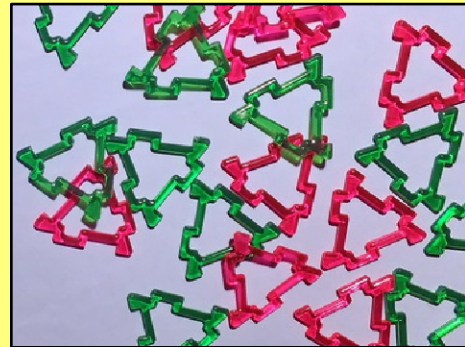
# Picture Puzzles

## To Do

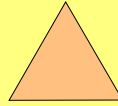
1. Look for an organised way to count triangles.
2. Look for a pattern in your answers.
3. Use the pattern to predict.

## You Need

- Equilateral triangle shapes
- Triangle graph paper



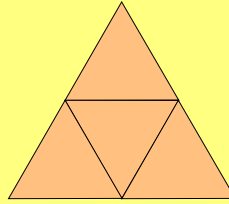
MiniGeofix



Size 1

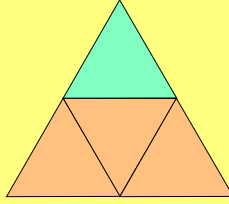
1 triangle

How many...

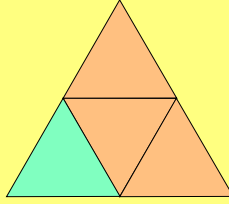


triangles?

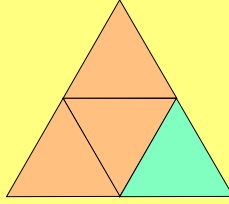
# Picture Puzzles



# Picture Puzzles

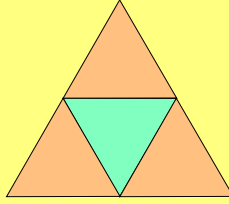


# Picture Puzzles

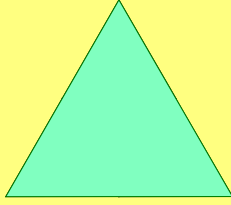




# Picture Puzzles



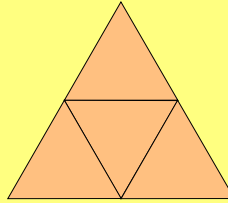
**Picture  
Puzzles**



**Picture  
Puzzles**

# Picture Puzzles

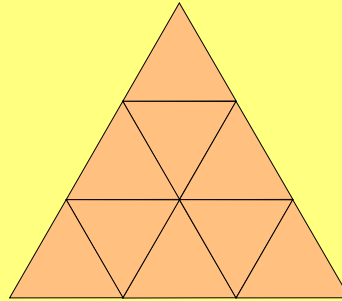
Size 2



5 triangles

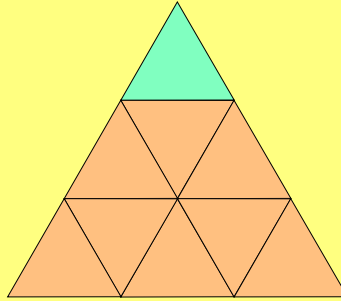
**Predict for a Size 3 Triangle.**

How many...

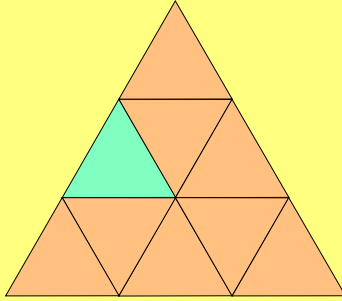


triangles?

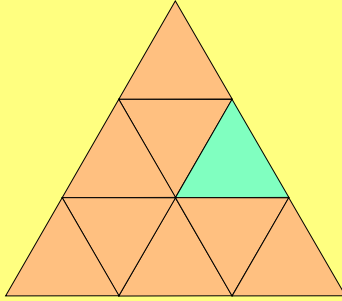
Size A



# Picture Puzzles

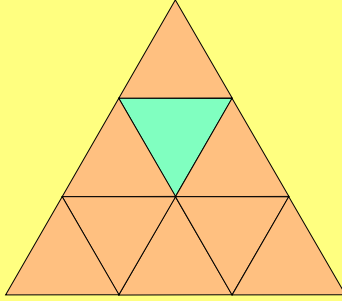


# Picture Puzzles

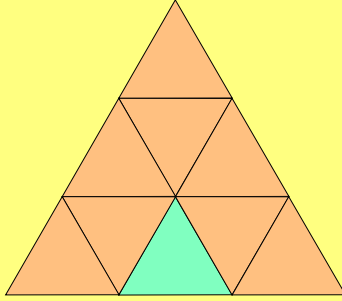




# Picture Puzzles

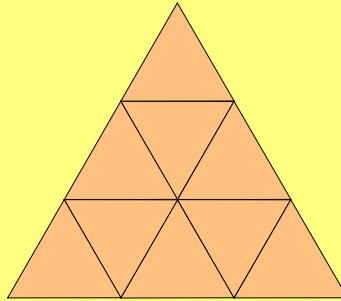


# Picture Puzzles



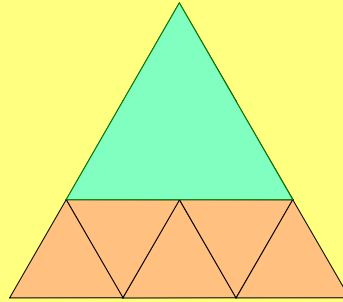
# Picture Puzzles

How many...

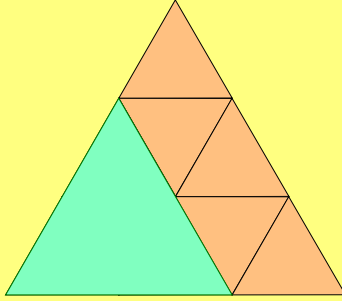


Size A?

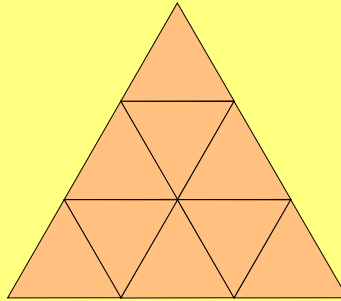
Size B



# Picture Puzzles

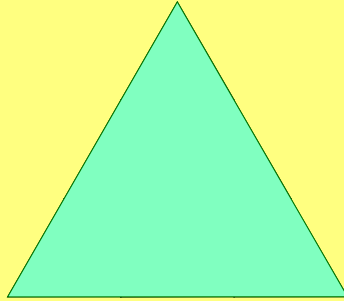


How many...

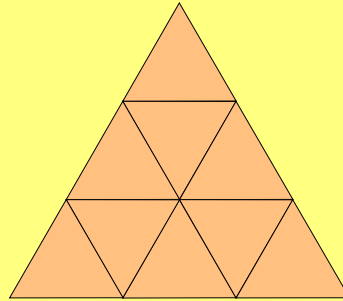


Size B?

Size C



How many...

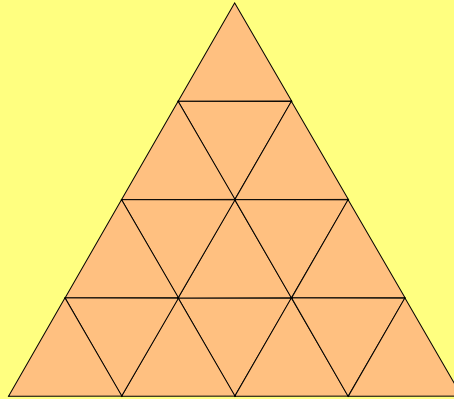


triangles?



**Predict for a Size 4 triangle.**

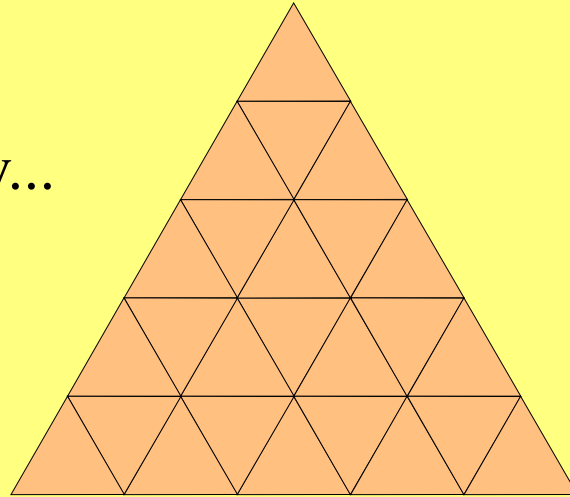
How many...



triangles?

**Predict for a Size 5 triangle.**

How many...



triangles?

**Predict for a Size 8 triangle.**

**Can you check your prediction another way?**

**Picture  
Puzzles**

**more**

**Picture  
Puzzles**

# Picture Puzzles

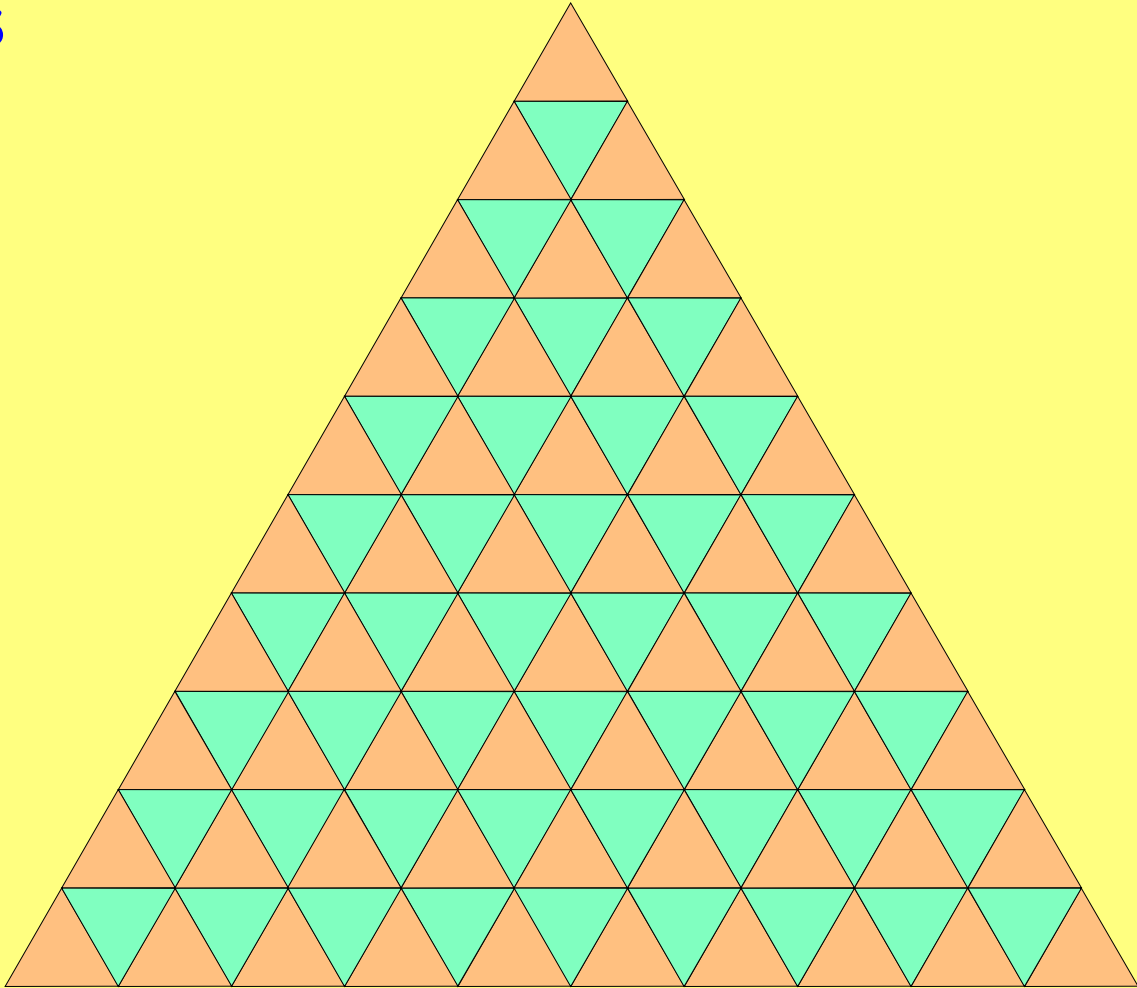
## To Do

1. Find a way to predict the total number of triangles formed in any size largest triangle.



**Predict for a Size 10 triangle.**

# Picture Puzzles



Picture  
Puzzles

**If I tell you any Size largest triangle**

**Can you tell me the total number**

**of Triangles formed?**

THE END...

...OR IS IT?