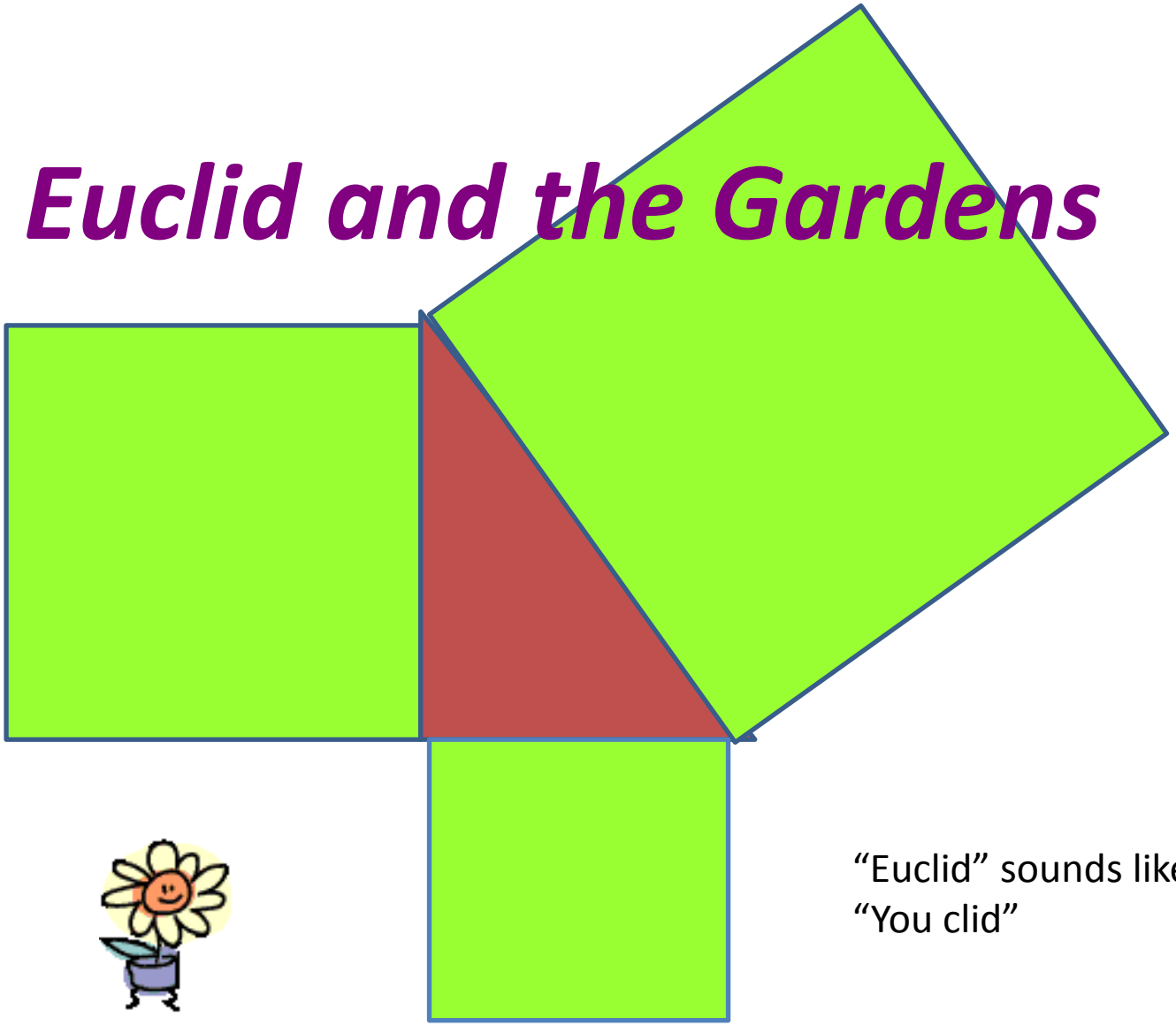
Euclid and the Gardens

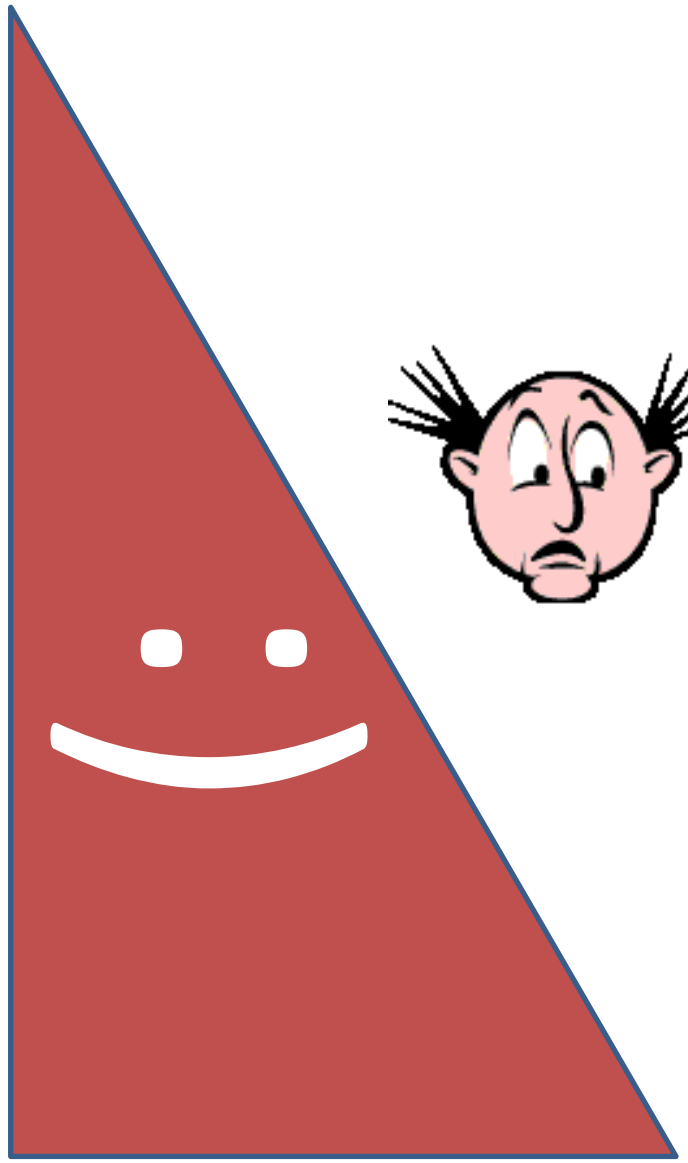


“Euclid” sounds like
“You clid”

By William Loader

Hi,

I’m a RAT!



A rat! Oh dear!
Let’s run away!

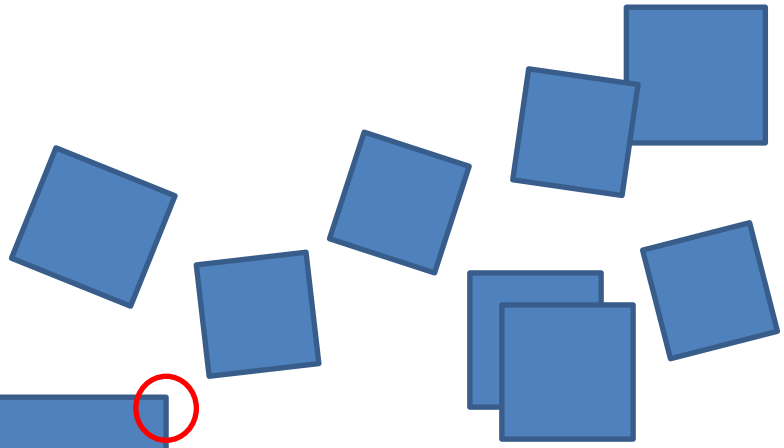
No, not a rat.

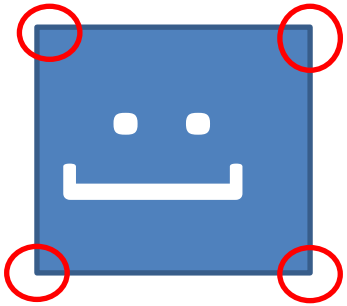
I’m a R.A.T.

A **R**ight-**A**ngled

Triangle!

OK. You're a
A **R**ight-**A**ngled
Triangle! **RAT**

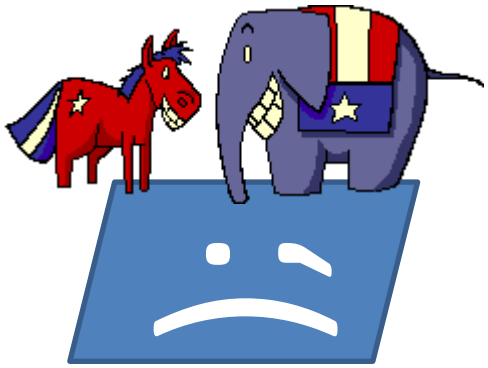




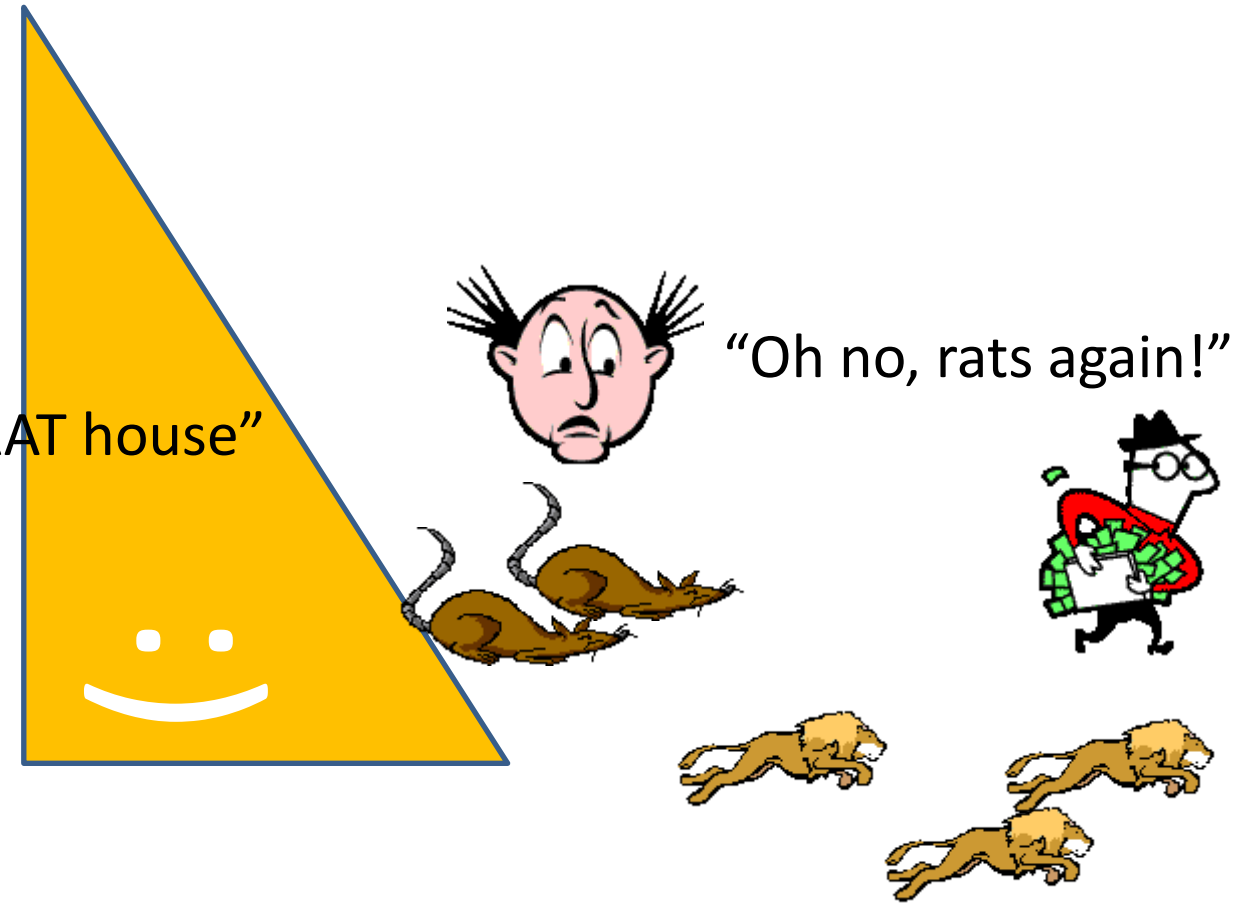
Well, I'm a square.
There are lots of us.
And we have
4 right-angles.
See them?

I've got 4 right-angles,
too. But I'm a rectangle.

I was a square once but an elephant sat on me. Now I'm a parallelogram.



So sorry to hear about that!

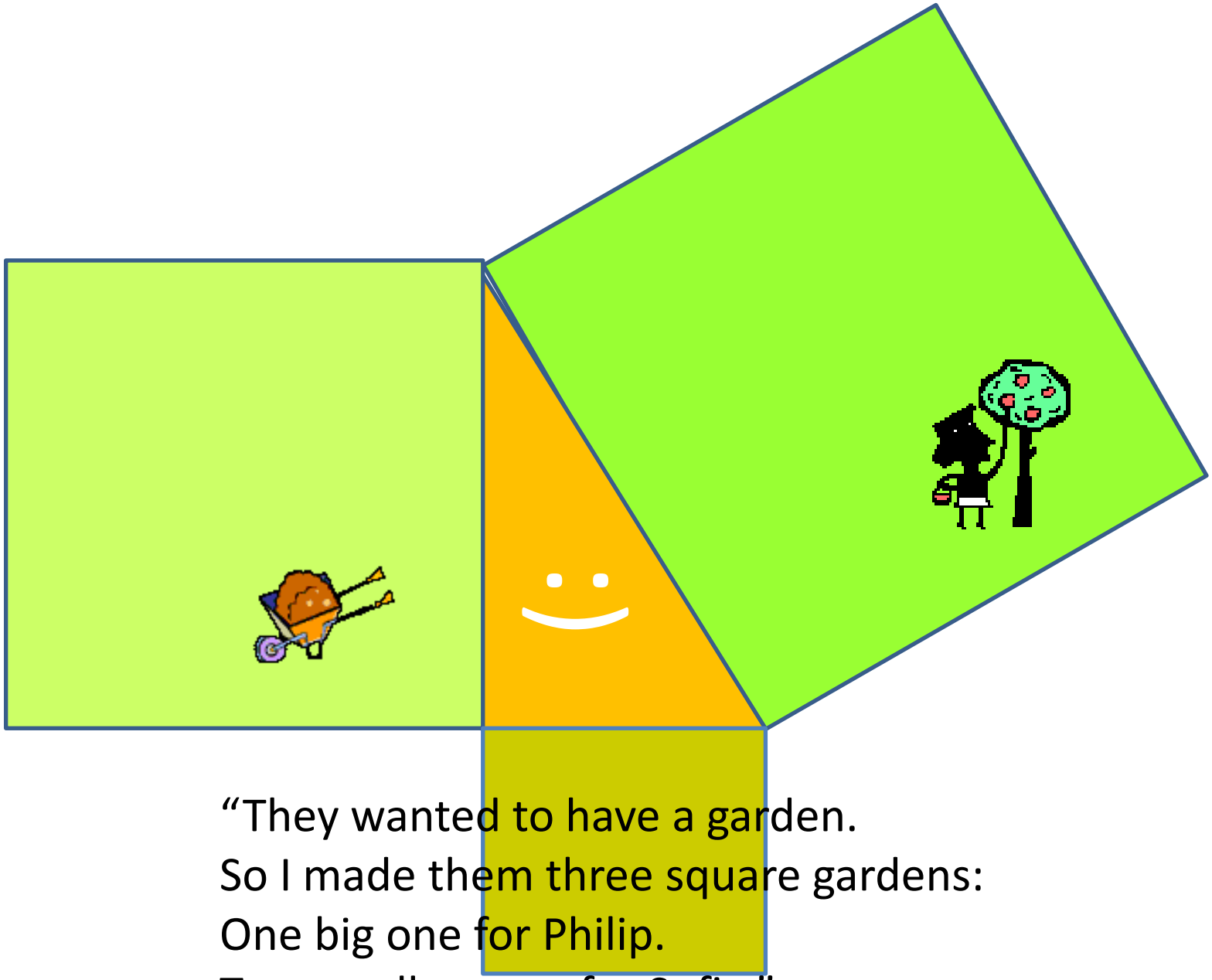


"No, No!
I am a Right-Angled Triangle House."

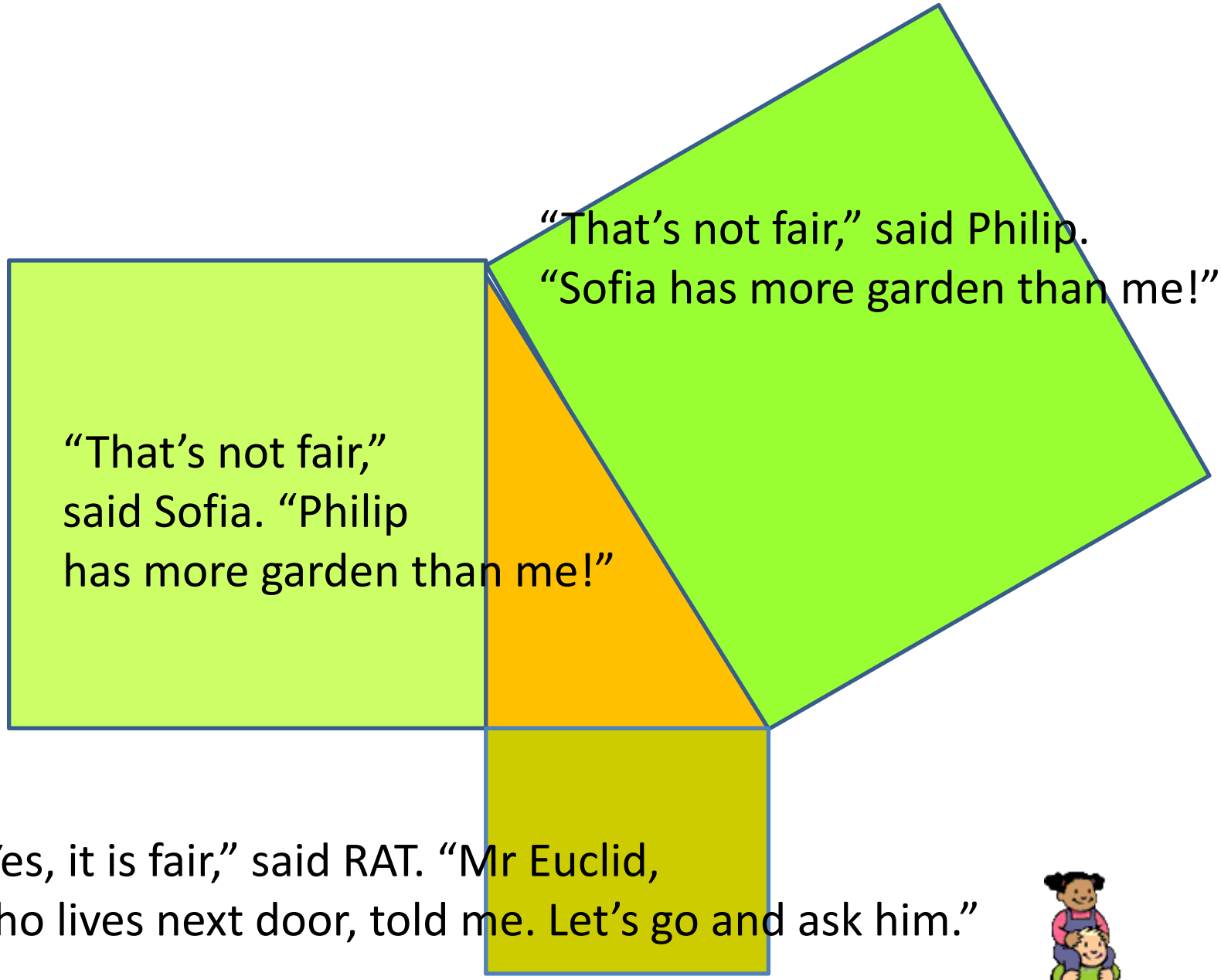
“Two people
came to live in my house”

“Oh no, more rats!”

“No, No! It was Philip and Sofia”

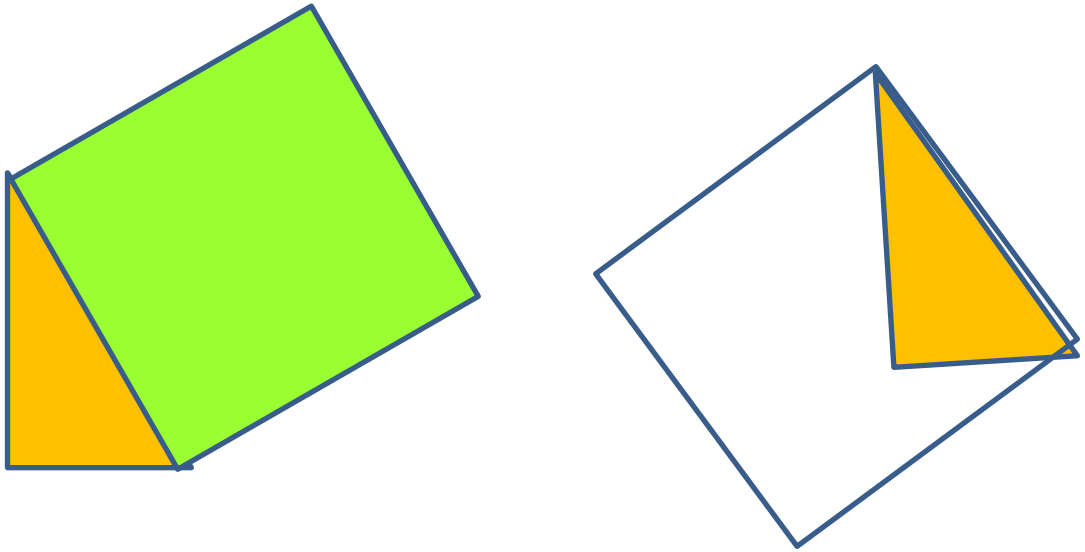


“They wanted to have a garden.
So I made them three square gardens:
One big one for Philip.
Two smaller ones for Sofia.”

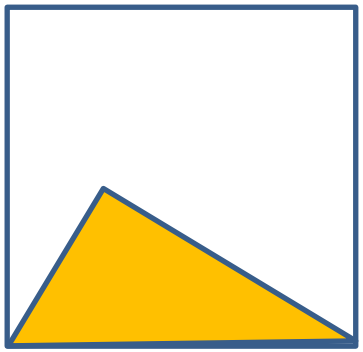


“Yes, it is fair,” said RAT. “Mr Euclid,
who lives next door, told me. Let’s go and ask him.”

“Well, let me show you something,”
said Mr Euclid. “Let’s just start with
the RAT house and Philip’s big garden.
Let’s pretend it could be
on the other side of the long line of the triangle”

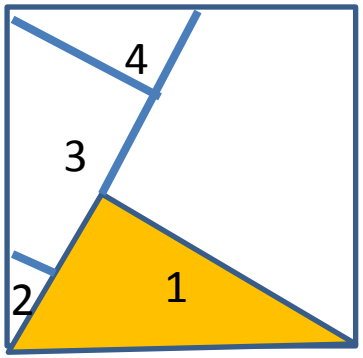


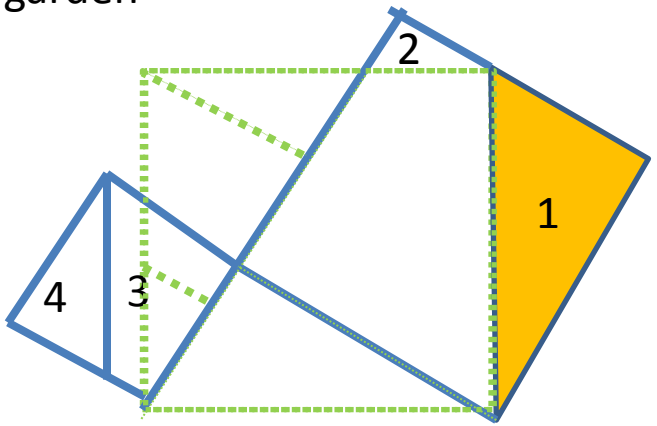
"Now, let's look at Philip's garden"



Let's move the pieces like this:
Move 1 over to the other side.
Move 2 up to complete the square.
Then slide 3 down and put 4 on the outside.
So we have made Sofia's two gardens
out of Philip's garden

Let's pretend we can cut it into pieces like this:

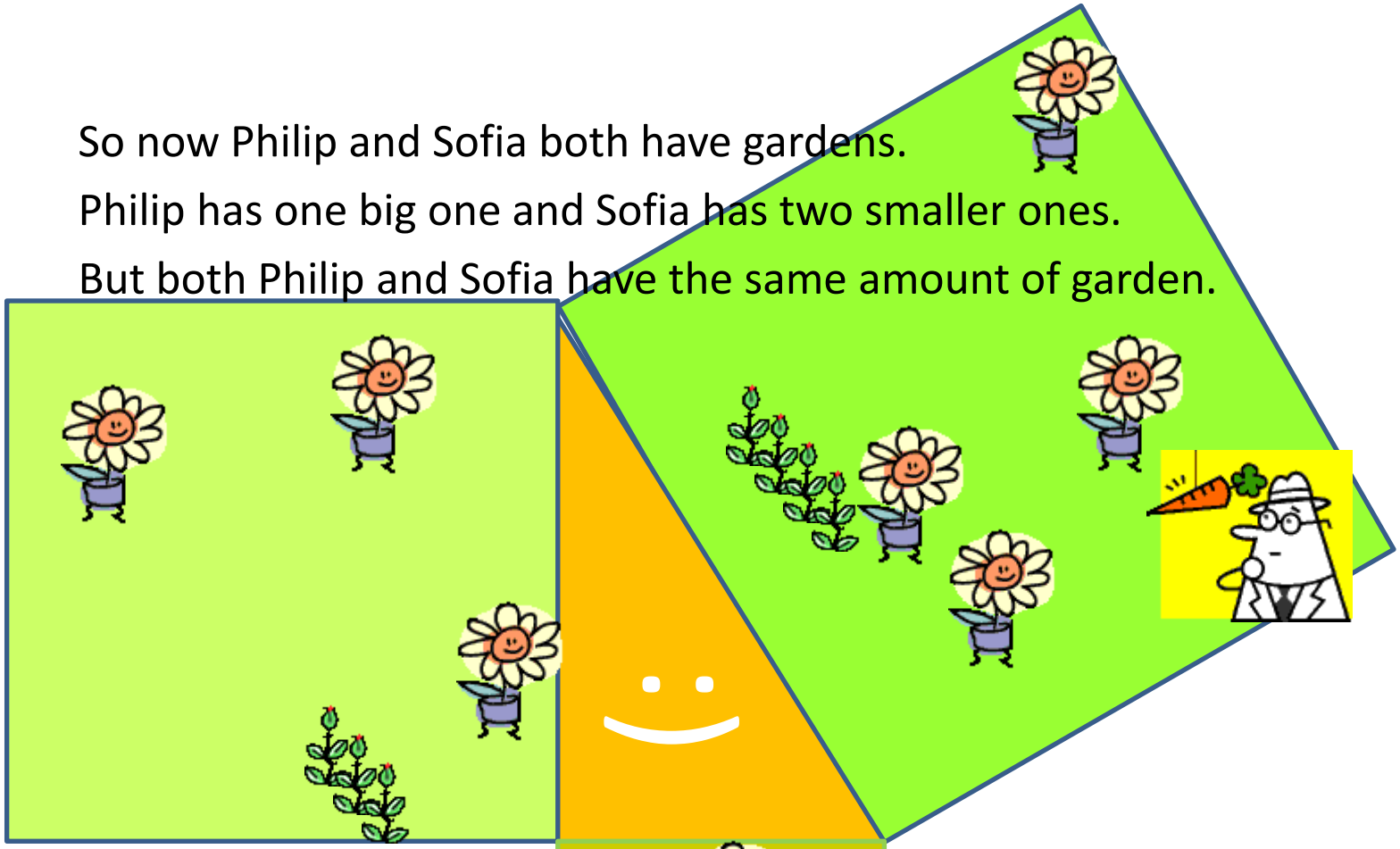




So now Philip and Sofia both have gardens.

Philip has one big one and Sofia has two smaller ones.

But both Philip and Sofia have the same amount of garden.

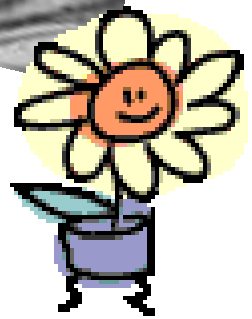


"Thank you, Mr Euclid!"

Now you can prove this is true. The area of the square on the long side of a right-angled triangle is equal to the area of the squares on the other two sides. Use the cut outs to prove it!

Who was Euclid?

He was a Greek who
lived 2300 years ago
in Alexandria, Egypt.
He made many discoveries
in maths, including this one
About right-angle triangles.
Studying how shapes fit together is called GEOMETRY



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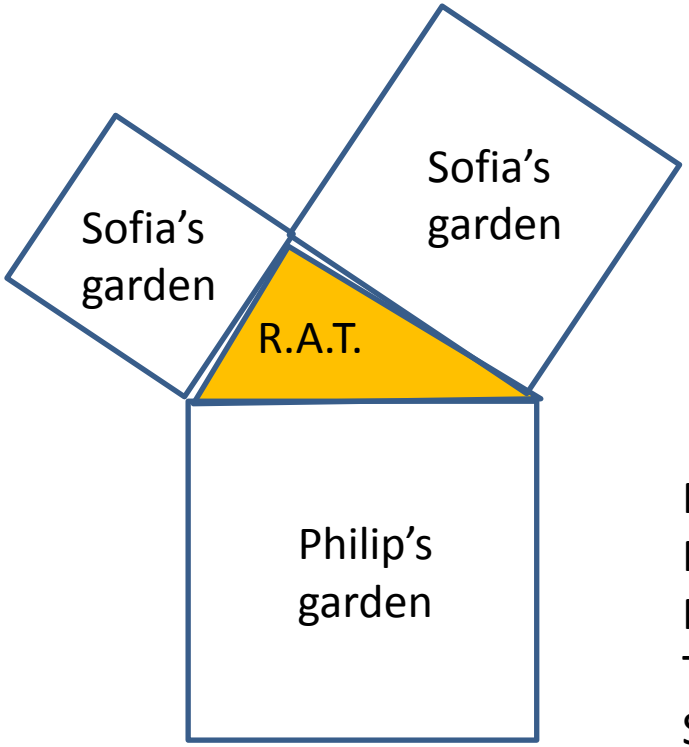

Now, you can do it.

Move the pieces like this:
Move 1 over to the other side.
Move 2 up to complete the square.
Then slide 3 down and put 4 on the outside.
So we have made Sofia's two gardens
out of Philip's garden

Using the cut out pieces put them together like this to make Philip's garden