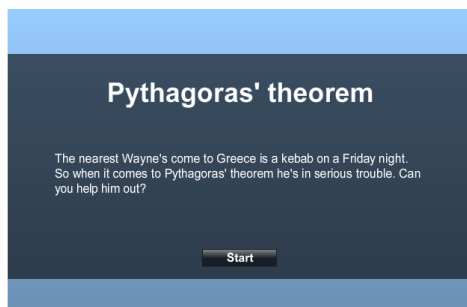## 4. Fourth sequence: "Pythagoras"

Choose "Geometry and measures" ➔ "Calculating lengths, areas and angles" ➔ " Pythagoras" ➔ "activity".
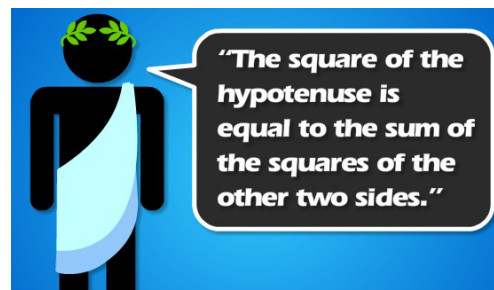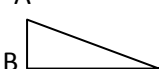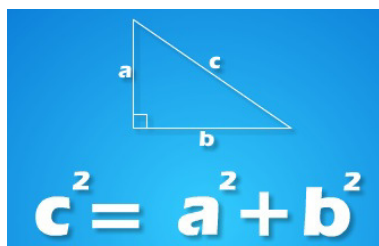
You will get this screen:

Press the "Start" button.

Pythagoras, who was very clever*, even by Greek standards, had a theorem which states that -all together now:
"The square* of the hypotenuse is equal to the sum of the squares of the other two sides ."

In the triangle   B ⟍ C , can you tell which side is the hypotenuse? ....


We can write this piece of news down as a formula. It shows that c squared is equal to a squared plus b squared. And this being the magical world of mathematics, we can mix this up and calculate the squares or lengths* of the two other sides.

Circle the right answer: what can we calculate thanks to Pythagoras' theorem?

The area of the triangle	The perimeter of the triangle	The length of the sides of the triangle

Now; let's say we want to find the length of side c in this triangle. We know that c squared is equal to 3 squared plus 4 squared. So c is equal to the square root of 25, which is 5.
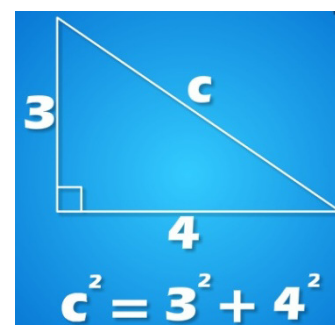
Write down in maths, and then calculate :
two squared : ....
five squared : ....
twelve squared plus six squared : ....
five squared minus four squared : ....

the square root of four : ....
the square root of nine : ....
the square root of sixteen: ....
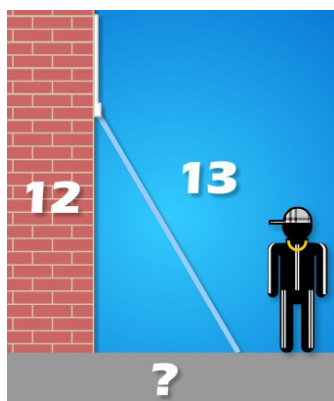
Wayne here is not Greek. And he probably couldn't spell* 'theorem'.
But he does know a thing or two about ladders*. Can you help Wayne figure out where to place his 13 meters* ladder so that he can reach a window that is 12 meters high? Obviously, he plans to clean the window, constable*.

Just fill in the gaps to get into the window.

Right answer : *Very impressive! Are you Greek? Perhaps we should name a theorem after you!*

Wrong answer : *That's not right. Perhaps you applied Wayne's theorem by mistake. You should have gone with the Greek gazer* instead.*

Vocabulary:
clever : intelligent, malin.
square : carré ; squared : au carré.
length : longueur
to spell : épeler (à ne pas confondre avec le nom, "a spell", un sort/enchantement).
ladder : échelle
meter : mètre
constable : agent, policier
gazer : observateur

Exercise:

You might have to use the $\sqrt{}$ button on your calculator ( ).

First triangle :
....
....
....
....
....

Second triangle :
....
....

....
....

Third triangle :
....
....
....
....