

Lesson 1

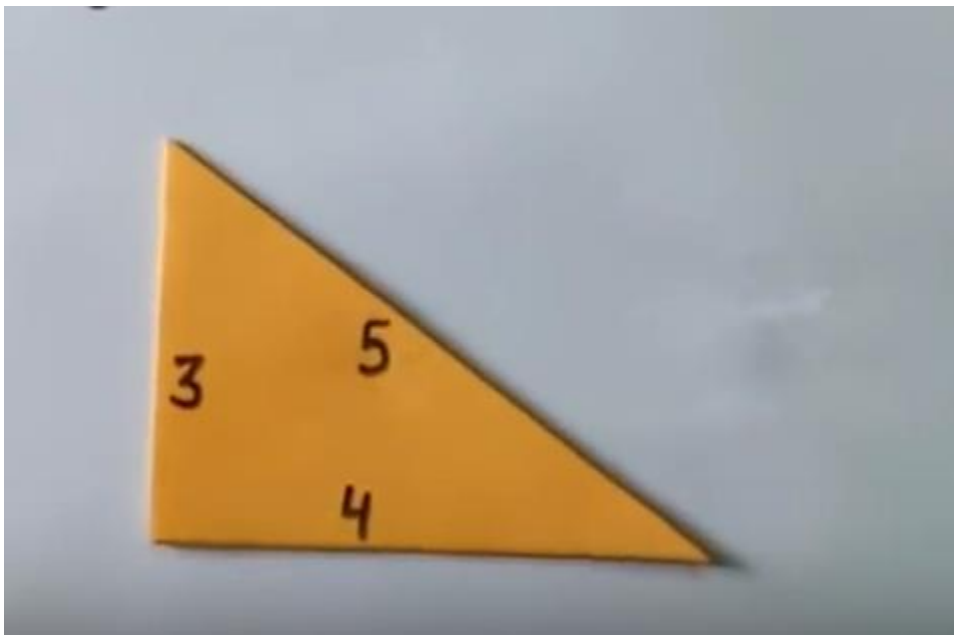
What is the Pythagorean Theorem for?

This lesson explains the Pythagorean Theorem and what $A^2 + B^2 = C^2$

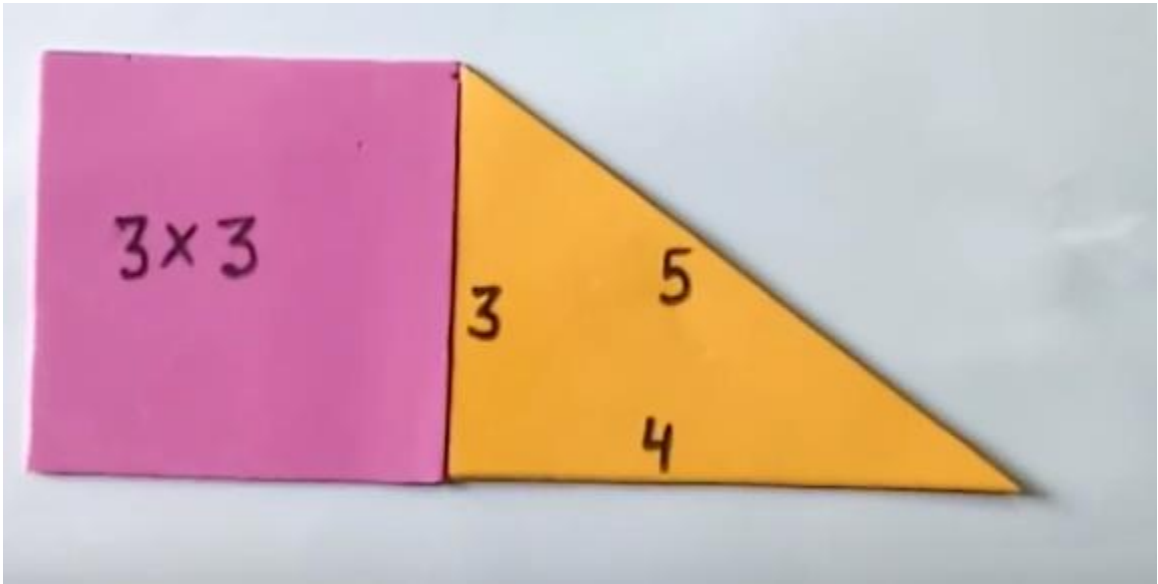
is really about.

<https://www.youtube.com/watch?v=UJVGXbLMtpg>

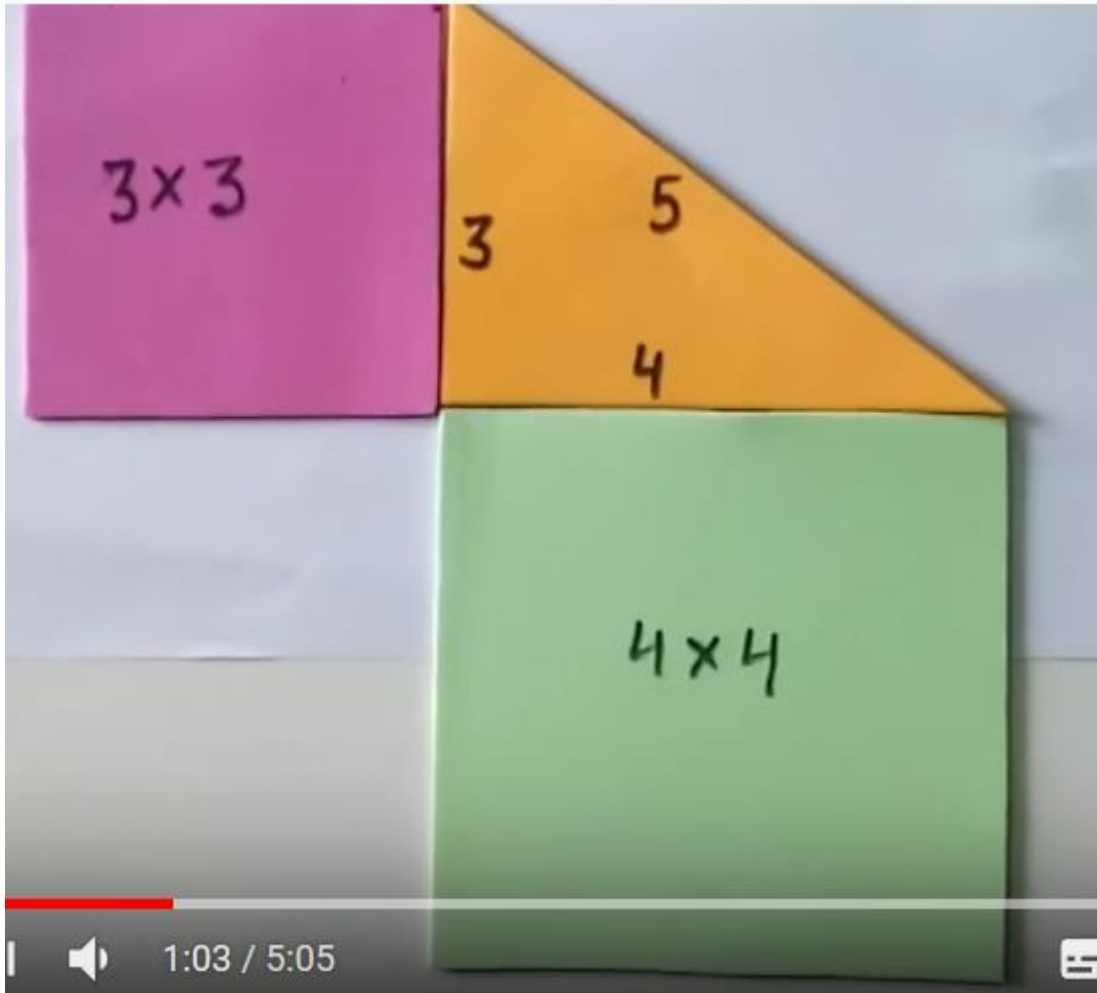
- **Your will need the triangle and three squares that were included in your package**
 - Follow the instructions on the video above. Skip to Number 2
 - If you do not have internet, see instructions below.
- a. Take the triangle and label like the photo below



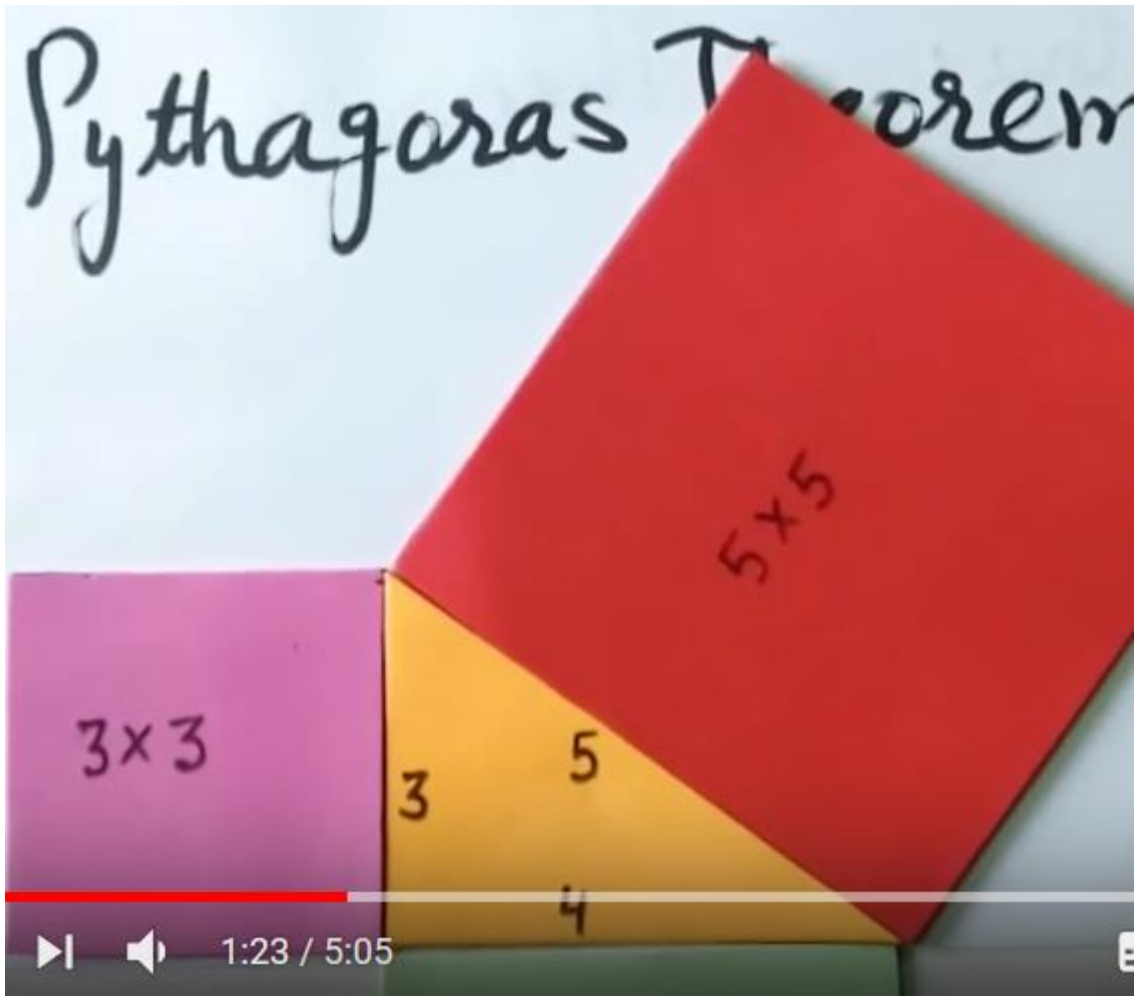
- b. Take smallest triangle and label like photo below



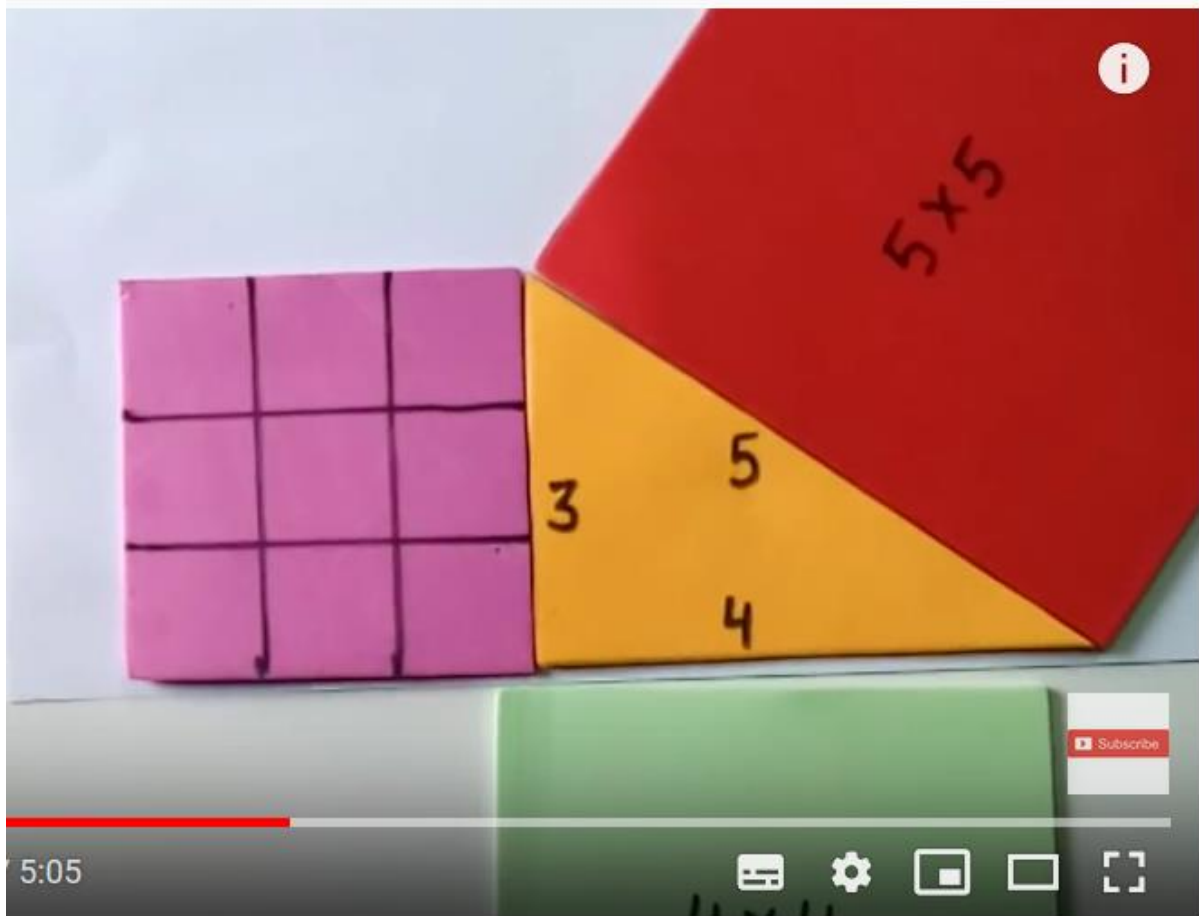
- c. Take the middle sized square and label like photo below.



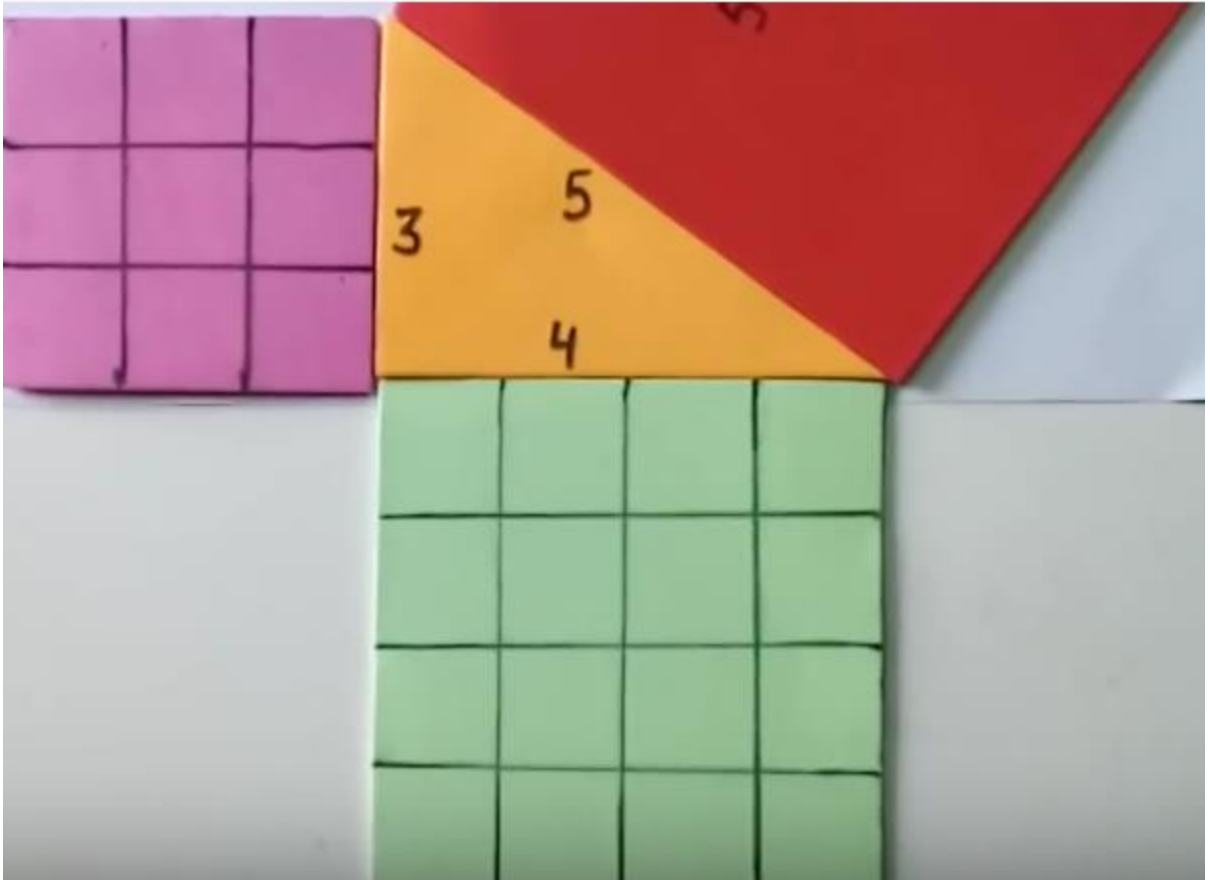
d. Take the largest square and label it like photo below.



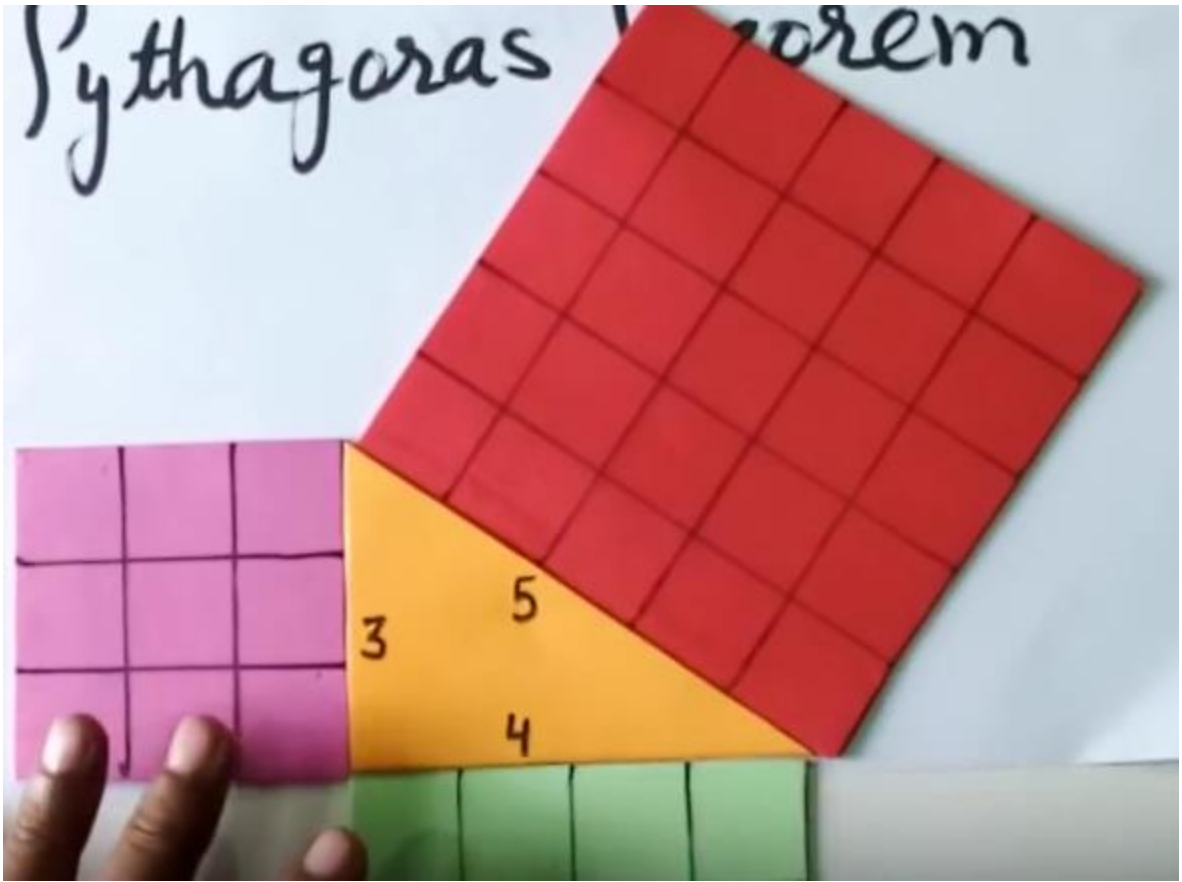
- e. Flip over the smallest square . Divide it into 9 cm square as in photo below.



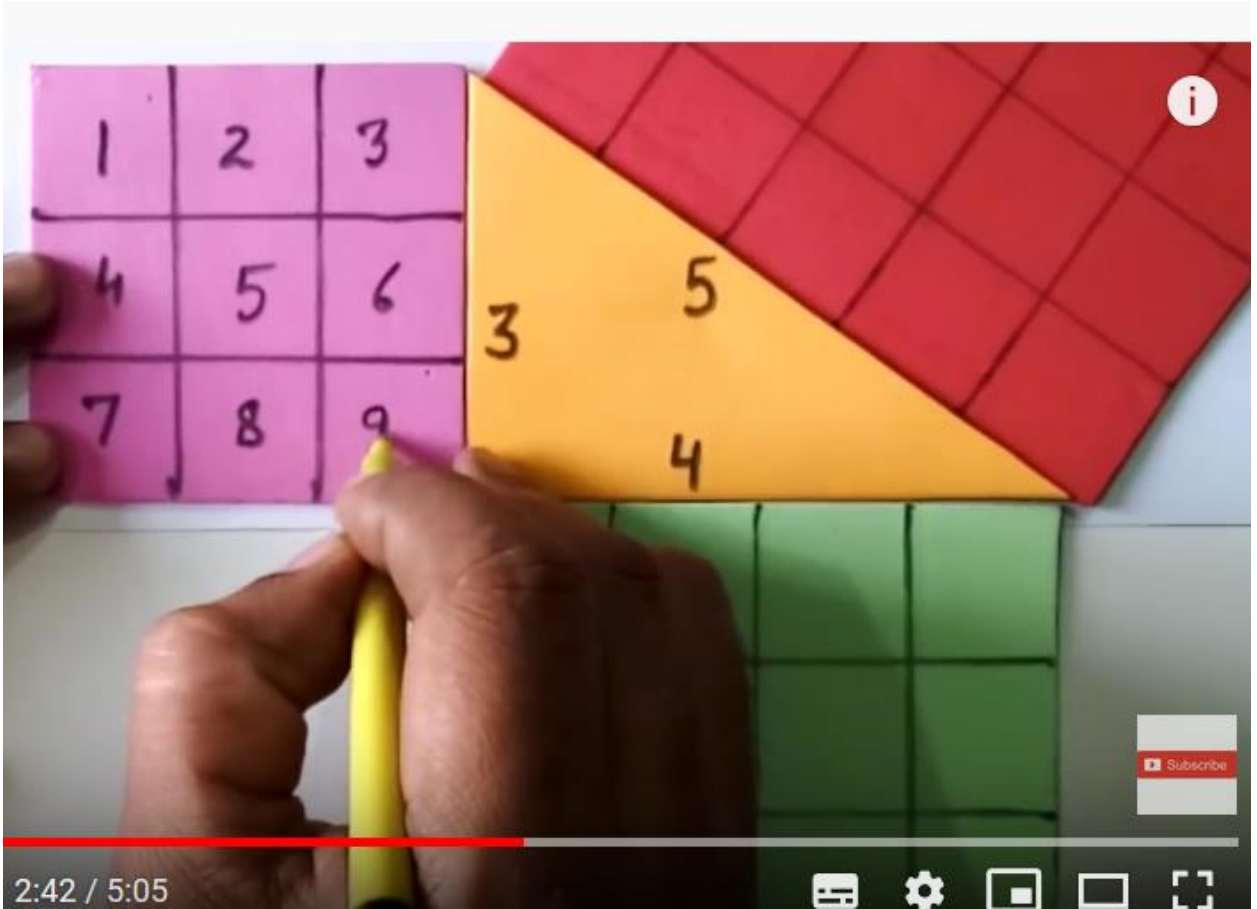
f. Flip over the middle-sized square. Divide it into 16 cm squares like photo below.



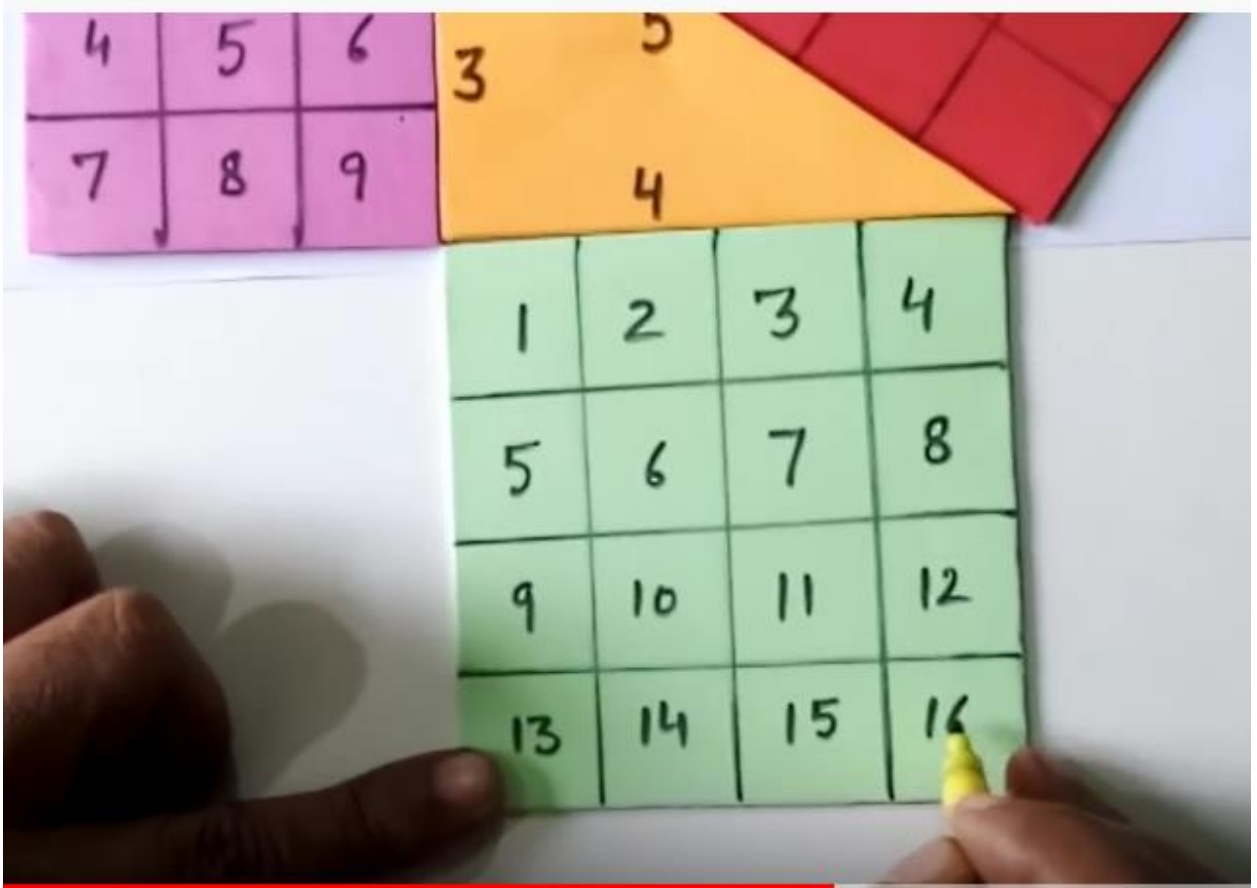
- g. Flip over the largest square. Divide it into 25 cm square like in the photo below.



- h. Go back to the smallest square and fill in the numbers like the photo below.



- i. Fill in the middle-sized square as in photo below.



j. Fill in the largest square like the photo below.



k. Write on a loose-leaf page.

$$3^2 + 4^2 = 5^2$$

$$3 \times 3 + 4 \times 4 = 5 \times 5$$

$$9 + 16 = 25$$

$$A^2 + B^2 = C^2$$

2. On the triangle, adjust the labeling.

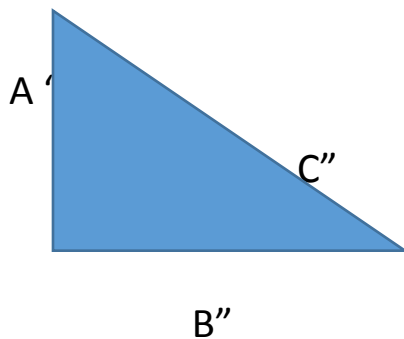
- a. 3 will have an A beside it
- b. 4 will have a B beside it
- c. 5 will have a C beside it

Lesson 2

Applying Pythagorean Theorem to Problems

When can I use the Pythagorean Theorem?

On right triangles. Try this one: Remember C is the longest side.



In the explanation in the video and above we saw that $a=3$. $B=4$ and $C=?$

When we do not know the length of the longest side or hypotenuse, we use $A^2 + B^2 = C^2$ as our formula.

$$A^2 + B^2 = C^2$$

$$3^2 + 4^2 = C^2$$

$$3 \times 3 + 4 \times 4 = C^2$$

$$9+16= C^2$$

$$25= C^2$$

You have done all of this in the video. Now find the square root of 25 to find the length of C.

$$\sqrt{25} = 5$$

Try these (they have exactly the same but with different numbers) for **practice**.

1. $A=5$. $B=12$ and $C= ?$

and

2. $A= 4$ $B=7$ and $C=?$

Please show all of your work.