Pythagoras Theorem, Script

This video is going to explain Pythagoras Theorem. We use Pythagoras when we want to find the length of an unknown side or to find the distance between two points.

It is used every day. Engineers use it to calculate the paths of spacecrafts and rockets. Architects use it to calculate heights of buildings and lengths of walls. And builders use it to build solid foundations. But how?

Well, key to understanding Pythagoras is being able to identify the hypotenuse. That is, the longest side of a right-angle triangle. The equation tor remember is $a^2 + b^2 = c^2$.

Let's try. Here we can see that on our triangle side a is 8cm, and side b is 5cm. We need to work out what side c is. So, we put the numbers in that we do know.

$8^2 + 5^2 = c^2$. That is, $64 + 25 = c^2$. So we know that $c^2 = 89$. Then, to get c from c^2 we need to find the square root of our answer. The square root of 89 is 9.433. We round our answer down to 9. Therefore, side c = 9cm.

What about when we are looking for one of the other sides? This example has side A missing. The formula is the same and we put in the numbers that we know.

$A^2 + 4^2 = 9^2$. $A^2 + 16 = 81$. We need to transpose our equation to work it out. $81 - 16 = a^2$. So, $a^2 = 65$. Finally, we find the square root of 65, which gives us a = 8.062. We round down to give us an answer of 8cm for side a.

For further examples and explanation, please contact us by email, on our website or come see us in the library.