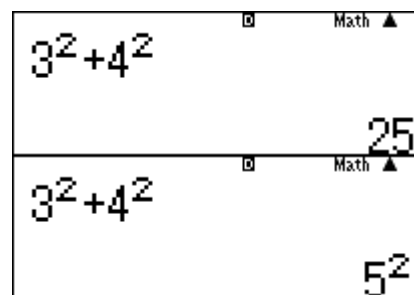


Module 2 : The concept of congruence

Part B – Introduction to the Pythagorean Theorem

The Pythagorean theorem is one of the oldest known formulas in mathematics. It is the right triangle relationship defined by $a^2 + b^2 = c^2$ where a and b are the legs of the right triangle and c is the hypotenuse (longest side).

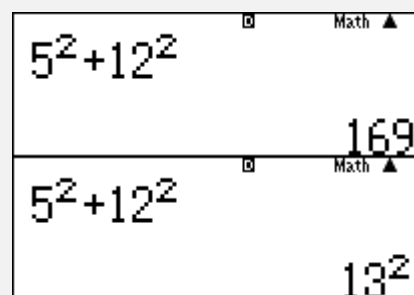
3 **x²** **+** **4** **x²** **=** **SHIFT** **□□□** (FACT)



The calculator screen displays the calculation $3^2 + 4^2 = 25$ and the result 5^2 . The screen is split into two sections by a horizontal line. The top section shows $3^2 + 4^2$ and the result 25. The bottom section shows 5^2 .

To prove a triangle is a right triangle use the Pythagorean Theorem and confirm the relationship $a^2 + b^2 = c^2$.

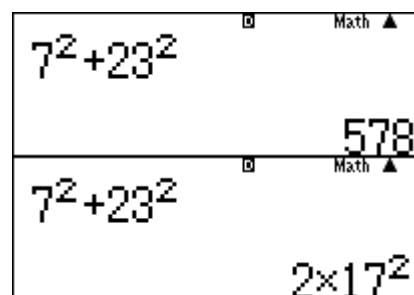
5 **x²** **+** **12** **x²** **=** **SHIFT** **□□□**



The calculator screen displays the calculation $5^2 + 12^2 = 169$ and the result 13^2 . The screen is split into two sections by a horizontal line. The top section shows $5^2 + 12^2$ and the result 169. The bottom section shows 13^2 .

In this example the product is not a perfect square so the triangle is not a right triangle.

7 **x²** **+** **23** **x²** **=** **SHIFT** **□□□**



The calculator screen displays the calculation $7^2 + 23^2 = 578$ and the result 2×17^2 . The screen is split into two sections by a horizontal line. The top section shows $7^2 + 23^2$ and the result 578. The bottom section shows 2×17^2 .