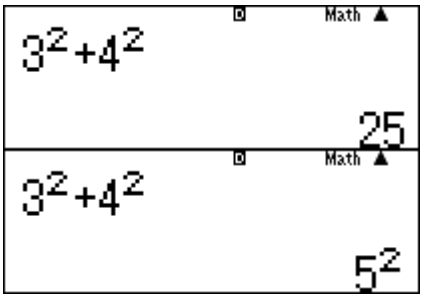
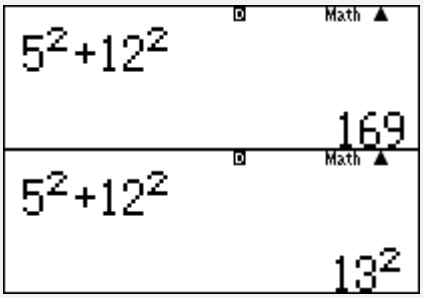
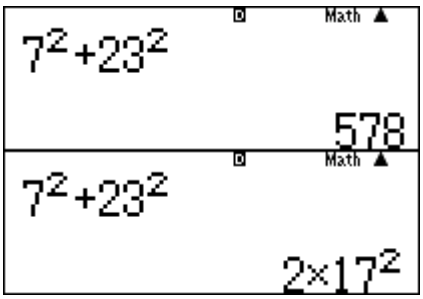
Module 3 : The concept of congruence

Part B – The converse of 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 ci s the hypotenuse (longest side). 3 x^2 + 4 x^2 = SHIFT ◦,,, (FACT)	
To prove a triangle is a right triangle use the Pythagorean Theorem and confirm the relationship $a^2 + b^2 = c^2$. 5 x^2 + 1 2 x^2 = SHIFT ◦,,,	
In this example the product is not a perfect square so the triangle is not a right triangle. 7 x^2 + 2 3 x^2 = SHIFT ◦,,,	

You can use the calculator to help solve for a missing leg in the theorem by subtracting from the hypotenuse.

$12^2 + b^2 = 13^2$

$b^2 = 13^2 - 12^2$

$b^2 = 169-122$

$b^2 = 25$

$b=5$

[1] [3] [x^2] [−] [1] [2] [x^2] [=] [SHIFT] [°’’’]