*For these tasks you will need:*

Card

Sharp pencil

Ruler

Scissors

Protractor / Set square

Glue

*The constructions in this task require great accuracy. Make sure that all your work is as neat as possible.*

### Task 1

* On the card, draw four rectangles measuring 3cm by 4cm
* On each rectangle, draw in one diagonal line creating eight congruent triangles in total
* Carefully cut out these eight triangles
* What type of triangles have you created? Measure the length of the long side. What is the special name given to the longest side of this particular type of triangle?
* On the card, draw three squares with sides of length 3cm, 4cm and 5cm. Carefully cut out your three squares.

You should now have eleven shapes as shown below.

### Task 2

* In your exercise books, draw two squares of side 7cm
* Arrange the two smaller squares and four of the triangles so that they fit exactly within the first of these 7cm squares.
* Now arrange the remaining four triangles and the largest square within the second 7cm square of these, so that they fit exactly.
* Glue these arrangements into place in your book
* What does this tell you about the areas of your three cut out squares? (HINT: Compare the largest against the smaller two)

### Task 3

* What famous theorem does this remind you of? Explain when and how you could use this theorem.
* Would the task work with squares of 5cm, 12cm and 13cm. Why?
* What about squares of 6cm, 8cm and 9cm?
* Can you find any other triples of numbers that would work?