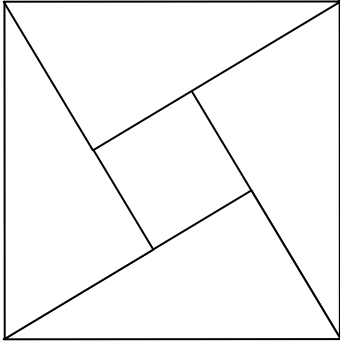# Proving the Pythagorean Theorem

Since the objective of these questions is to prove the Pythagorean Theorem you may not use it in any part of your answers.

Level 1 – 2

1. The following large square is made from four identical triangles and one small square.

If each of the triangles are the same as the triangle below, answer the following questions.

a) Determine an expression for the area of the large square in terms of only c.

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b) Determine an expression for the area of one triangle in terms of a and b.

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c) Determine an expression for the area of the small square in terms of a and b.

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d) Use your answers to prove the Pythagorean Theorem. Explain your method clearly.

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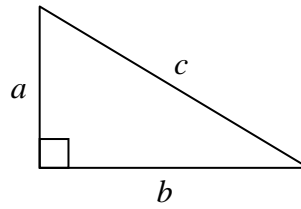………

Level 3 – 4

2. Use the following diagram to prove the Pythagorean Theorem. Explain your method clearly.

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3. Use the following diagram to prove the Pythagorean Theorem. Explain your method clearly.

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4. Use the following diagram to prove the Pythagorean Theorem. Explain your method clearly.

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