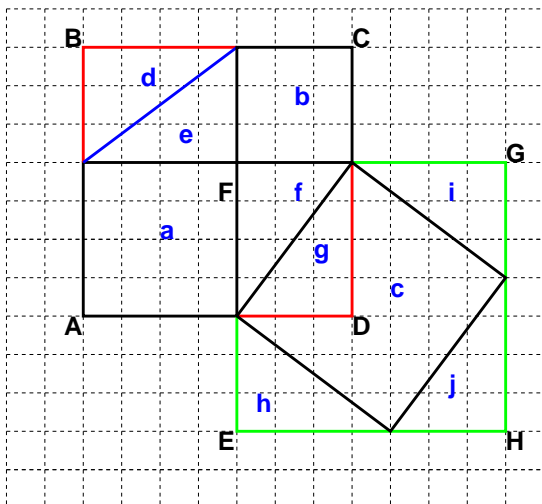


Pythagorean Theorem Proof

version = 1.03 of pythagoras.tex 2012 Jun 14
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Prove the Pythagorean theorem myself with no help. Do it from scratch geometrically.



Equal Areas: triangles d, e, f, g, h, i, j \equiv T since they are all 3×4 .
Any other side sizes also work.

Equal Areas: squares ABCD and EFGH since they are both $(3 + 4) \times (3 + 4) = 7 \times 7$

But $ABCD = a + b + d + e + f + g = a + b + 4T$

and $EFGH = c + f + h + i + j = c + 4T$

So the areas of the three squares a, b and c are related by:

$$a + b = c$$

QED!!!

Sketch: xfig (<http://www.xfig.org/>)

document: latex (<http://alum.mit.edu/www/toms/latex.html>)

convert to html: tex4ht (<http://tug.org/applications/tex4ht/mn.html>)

pdf version: <http://alum.mit.edu/www/toms/papers/pythagoras/pythagoras.pdf>

Link to many proofs: <http://www.cut-the-knot.org/pythagoras/index.shtml> #24 has a picture of a diagram like mine without explanation.

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