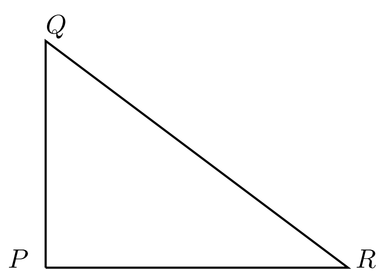
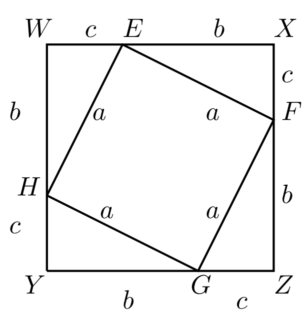
PROOF 2: By Making a Square

Let $QR = a, RP = b$ and $PQ = c$. Now, draw a square $WXYZ$ of side $(b+c)$.



Take points E, F, G, H on sides WX, XY, YZ and ZW respectively such that $WE = XF = YG = ZH = b$.



Then, we will get 4 right-angled triangle, hypotenuse of each of them is a and the other two sides of each of them are b and c.
Remaining part of the figure is the square $EFGH$, each of whose side is a, so area of the square $EFGH$ is a^2.
Now, we are sure that
square $WXYZ =$ square $EFGH + 4$ $\triangle$GYF
or,(b+c)$^2 = a^2 + 4\frac{1}{2}bc$ 1
or, $b^2 + c^2 + 2bc = a^2 + 2bc$
or, $b^2 + c^2 = a^2$
Hence, the Pythagorean theorem is **proved**.