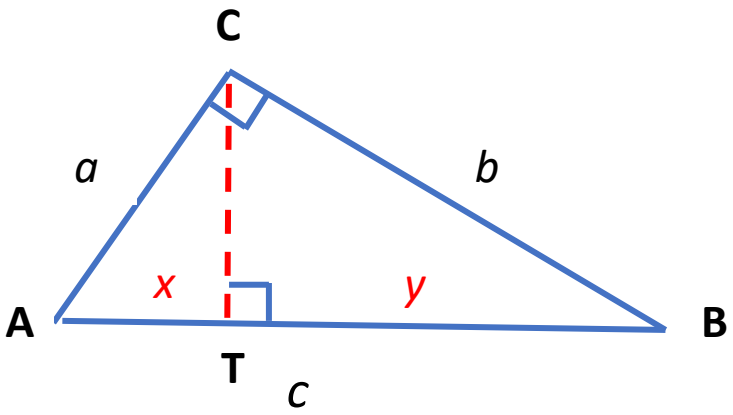
Proof – Pythagorean Theorem



Statements	Reasons
1. ΔACB, C is rt ∠	Given
2. Draw alt. to AB	Construction
3. ΔACB ~ΔATC *and* ΔACB ~ΔBTC	AAP
4. ΔATC ~ΔBTC	Transitive Property
5. $\frac{c}{a}=\frac{a}{y}; \frac{c}{b}=\frac{b}{x}$	Altitude drawn, leg is geo mean
6. x + y = c	Segment Addition Postulate
7. cy = **a^2 ;** cx = **b^2**	Prop of proportion from step 3
8. cy + cx = $a^2 + b^2$	Add prop =, from step 5
9. c(y + x) = $a^2 + b^2$	Distrib prop (factoring)
10. ***$c^2 = a^2 + b^2$***	Substitution