



$$\triangle A \cong \triangle B$$

$$\angle 1 + \angle 2 = 90^\circ$$

$$\angle 1 + \angle 2' = 90^\circ$$

$$\angle 3 = 90^\circ$$

T is a square

$$\text{Area of } T = c^2$$

$$\text{Area of } S = (a + b)^2$$

$$\text{Area of each } \triangle = \frac{ab}{2}$$

$$(a + b)^2 = c^2 + 4 \frac{ab}{2}$$

$$a^2 + 2ab + b^2 = c^2 + 2ab$$

$$\therefore c^2 = a^2 + b^2$$

SSS

\triangle angles sum to 180°

$$\angle 2 \cong \angle 2'$$

Supplementary \angle s

Equal sides, $90^\circ \angle$ s

Area of \square

Area of \square

Area of \triangle

Sum of areas

Algebra (FOIL, simplification)

Subtract $2ab$ from both sides.