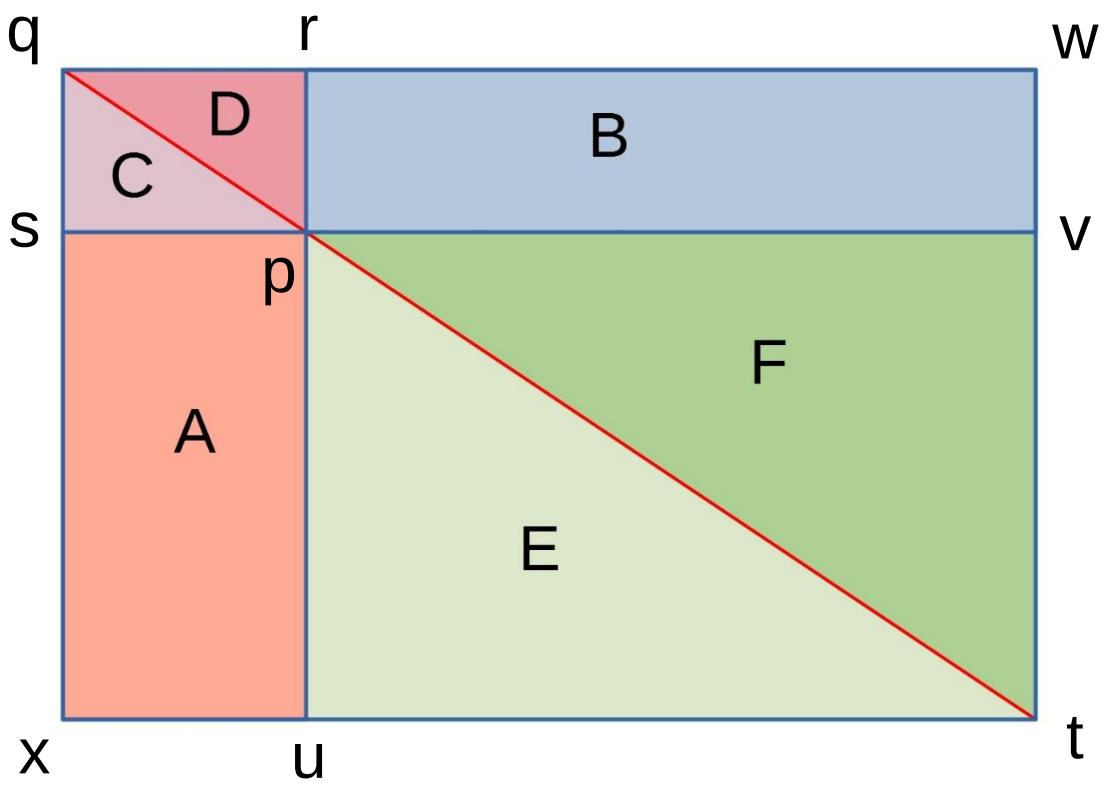
Method 1:



By the properties of a rectangle,

$$A + E + C = D + B + F$$

As triangles *qxt* and *qwt* are congruent.

Consider the rectangles *qrsp* and *pvut.*

By the same properties,

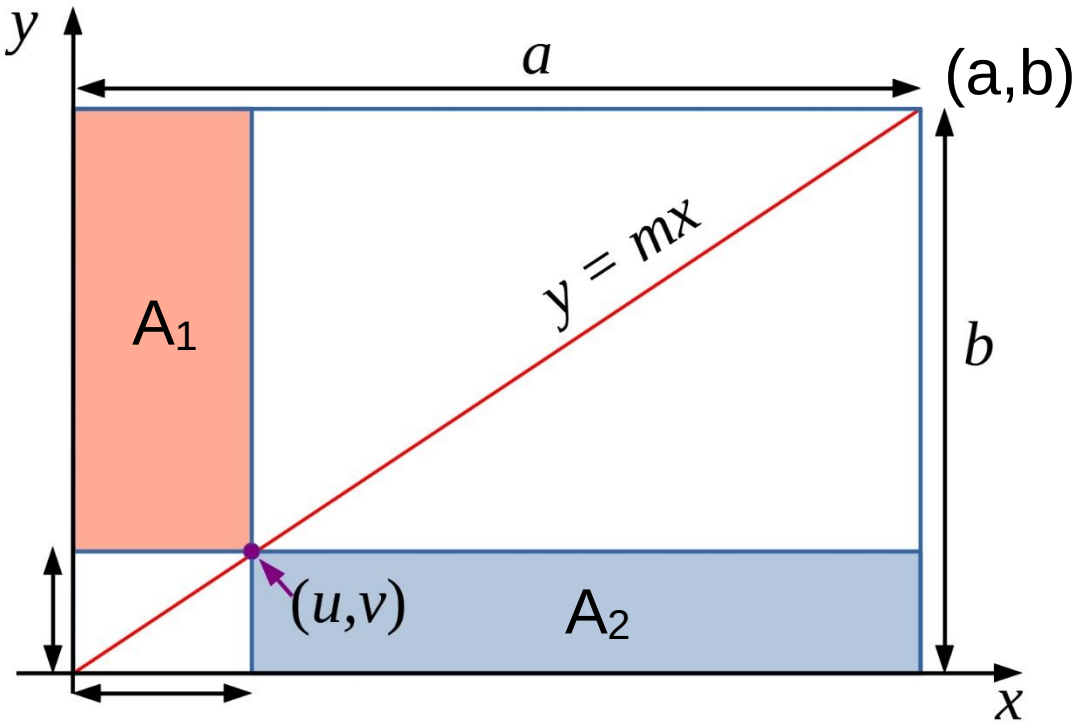
$$\mathrm{C} = \mathrm{D} \text{ and } \mathrm{E} = \mathrm{F}$$

Therefore,

$$A + F + D = D + B + F$$

$$\boldsymbol{A = B}$$

Method 2:



Consider expressions for A_1 and A_2,

$$A_1 = v(a-u) = av - uv$$

$$A_2 = u(b-v) = bu - uv$$

Considering the line y = mx at (a,b),

$$(b) = m(a)$$

$$m = \frac{b}{a}$$

Therefore, at (u,v), which is on y = mx,

$$v = \frac{b}{a}u$$

$$av = bu$$

Substituting into expressions for A_1,

$$A_1 = bu - uv$$

Therefore,

$$\boldsymbol{A_1 = A_2}$$