

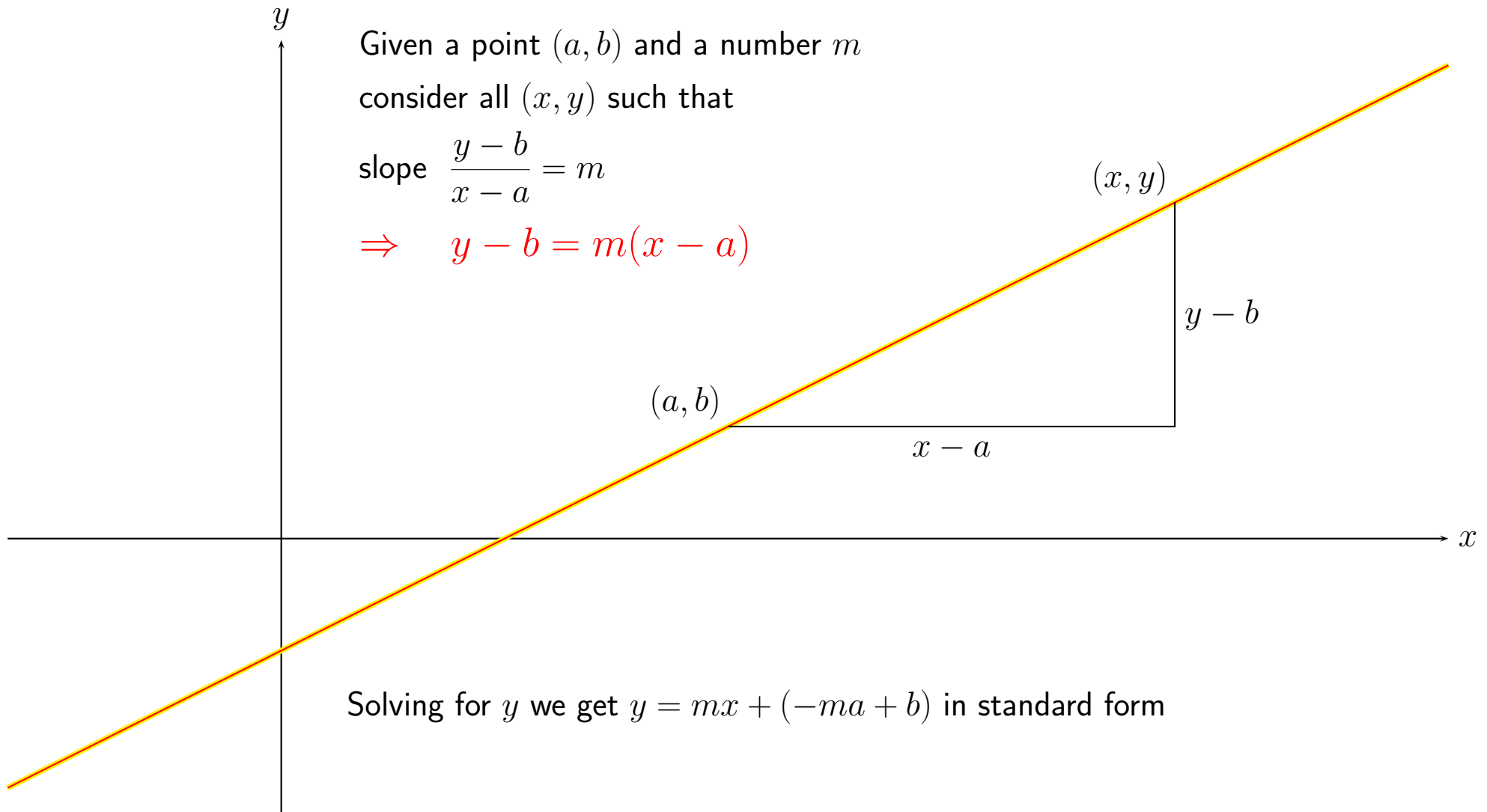
# Point-slope formula for a straight line (can you see why it works?)

Given a point  $(a, b)$  and a number  $m$

consider all  $(x, y)$  such that

$$\text{slope } \frac{y - b}{x - a} = m$$

$$\Rightarrow y - b = m(x - a)$$



Solving for  $y$  we get  $y = mx + (-ma + b)$  in standard form