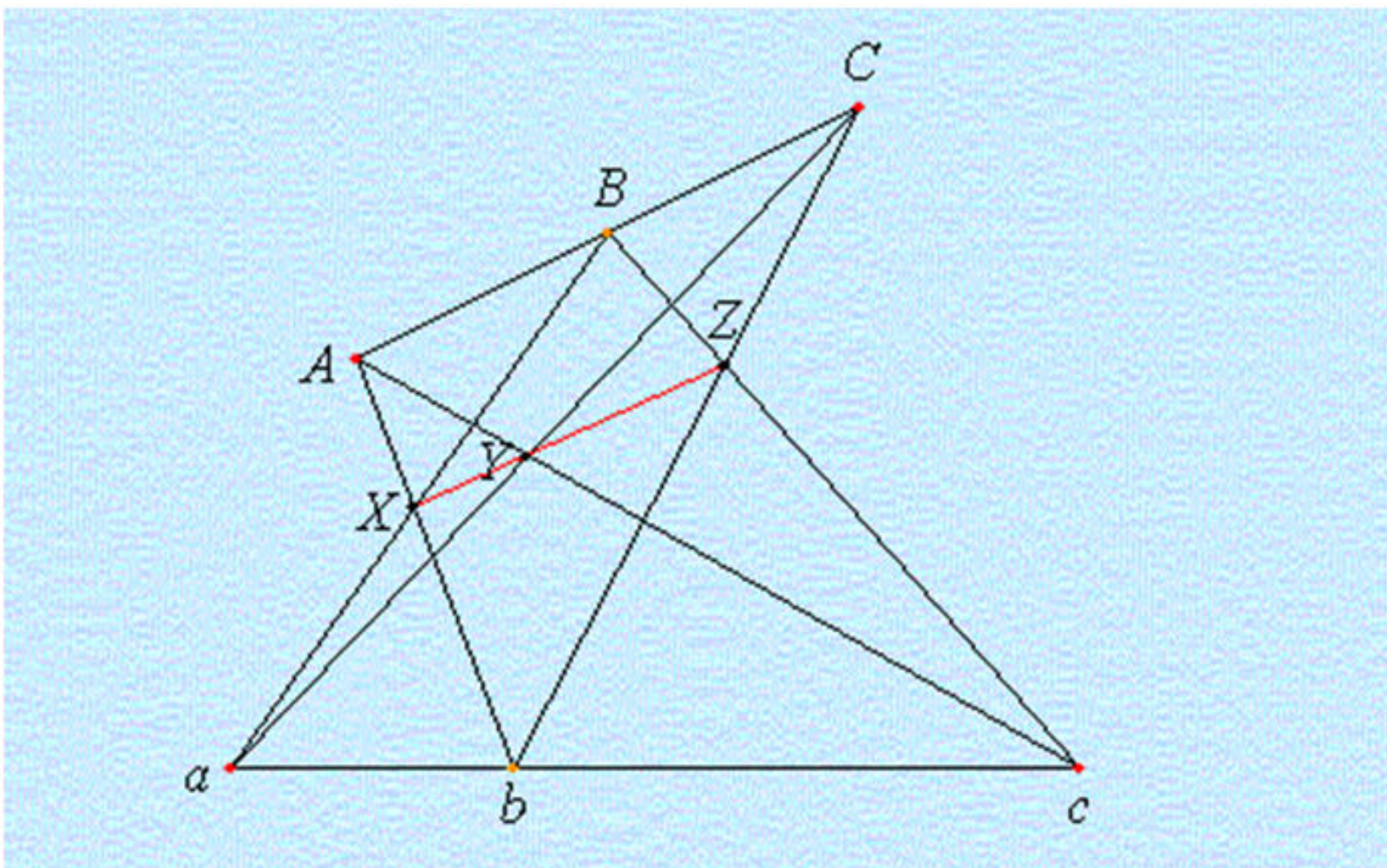




# THEOREM OF THE DAY

**Pappus' Theorem** *Let  $A, B, C$  and  $a, b, c$  be two sets of collinear points. Let  $A$  be joined by a line to  $b$  and  $c$ ;  $B$  to  $a$  and  $c$ ; and  $C$  to  $a$  and  $b$ . Then the intersection points of the line pairs  $Ab$  with  $Ba$ ,  $Ac$  with  $Ca$  and  $Bc$  with  $Cb$  are again collinear.*



The above picture shows Pappus' Theorem in action. Changing the angle of the lines  $AC$  or  $ac$ , or the position of the points  $B$  or  $b$  on these lines, will change the length or slope of  $XZ$  but keep it collinear with  $Y$ .

Pappus, working in Alexandria about 600 years after Euclid, made valuable compilations of Greek mathematics, as well as contributing some theorems, such as the above, which appear to be original.

**Web link:** [www.mathpages.com/home/kmath542/kmath542.htm](http://www.mathpages.com/home/kmath542/kmath542.htm)

**Further reading:** *Ancient Mathematics (Sciences of Antiquity)*, by Serafina Cuomo, Routledge, 2001.

