



Example 33 : According to the above identity, different interpretations can be made for different graphics, so the following conclusions can be obtained.

As shown in the figure , the tangent lines AP and AQ of O pass through point A , and the tangent lines CM and CN of O pass through point C . AP and CM intersect at point B , and AQ and CN intersect at point D . Then the following identities hold:

$$\frac{AO^2}{DA \cdot AB} = \frac{CO^2}{BC \cdot CD}, \quad \frac{BO^2}{AB \cdot BC} = \frac{DO^2}{CD \cdot DA},$$

$$\frac{AO^2}{DA \cdot AB} - \frac{BO^2}{AB \cdot BC} = 1, \quad \frac{BO^2}{AB \cdot BC} - \frac{CO^2}{BC \cdot CD} = -1,$$

$$\frac{CO^2}{BC \cdot CD} - \frac{DO^2}{CD \cdot DA} = 1, \quad \frac{DO^2}{CD \cdot DA} - \frac{AO^2}{DA \cdot AB} = -1.$$