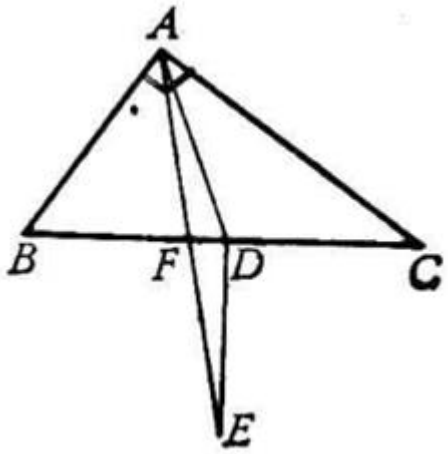
Example 106 : As shown in Figure 1, in the right angle △ ABC, the bisector of the right angle A intersects the mid-perpendicular line DE of BC at point E, then $\angle DAE = \angle DEA$.



repeat

$$\frac{\frac{A-D}{A-E}}{\frac{E-A}{E-D}}=\frac{\frac{A-C}{A-E}}{\frac{A-B}{A-E}}\frac{\frac{C-B}{C-A}}{\frac{A-C}{A-D}}\left(\frac{A-C}{A-B}\frac{D-E}{B-C}\right),$$