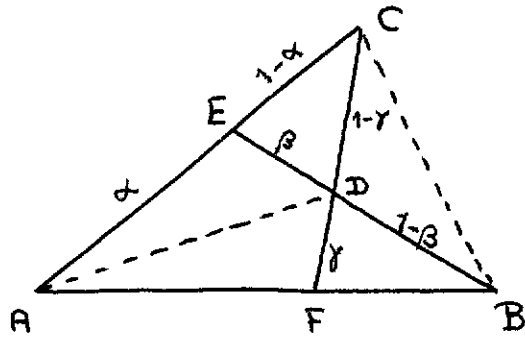


A simple geometrical theorem I did not know



Given:

$$AE = \alpha \cdot AC$$

$$ED = \beta \cdot EB$$

$$FD = \gamma \cdot FC$$

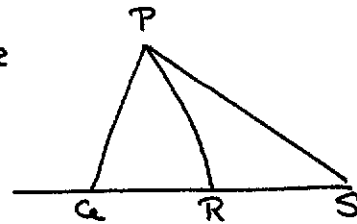
Denoting with (PQR) the area of $\triangle PQR$, we observe

$$(ADB) = \gamma \cdot (ACB) \quad \text{and also}$$

$$\begin{aligned} (ADB) &= (1-\beta) \cdot (AEB) \\ &= (1-\beta) \cdot \alpha \cdot (ACB) \end{aligned}$$

from which we conclude $\gamma = (1-\beta) \cdot \alpha$

[The theorem we used thrice
- say $(PQR) \cdot \frac{RS}{QR} = (PRS)$ -
is no more than adding
metric to - see EWD1221b -



$$R \neq S \wedge \text{col. } R.S.Q \wedge \text{tri. } R.Q.P \Rightarrow \text{tri. } R.S.P$$

The theorem proved in this note is of no importance; it is recorded here because I don't remember this proof technique from my school-days.

Nuenen, 22 December 1995

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