Two characterizations of the triangle with the angles $\frac{\pi}{7}, \frac{2\pi}{7}, \frac{4\pi}{7}$


**Abstract.** In this paper some interesting relations for the triangle with the angles $\frac{\pi}{7}, \frac{2\pi}{7}, \frac{4\pi}{7}$ are considered. Statements about lengths of its sides, Brocard angle and radius of circumscribed circle are proved.