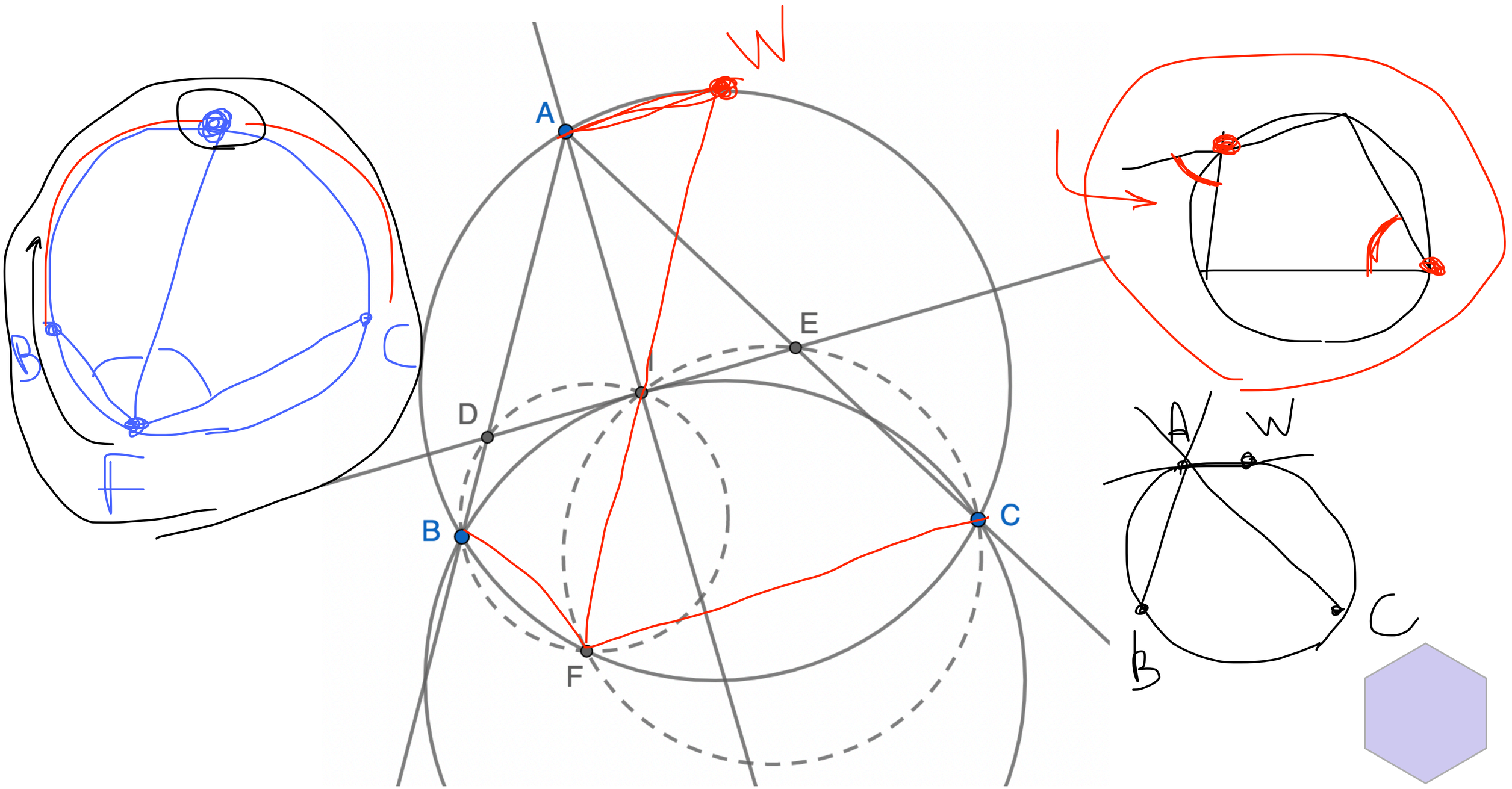
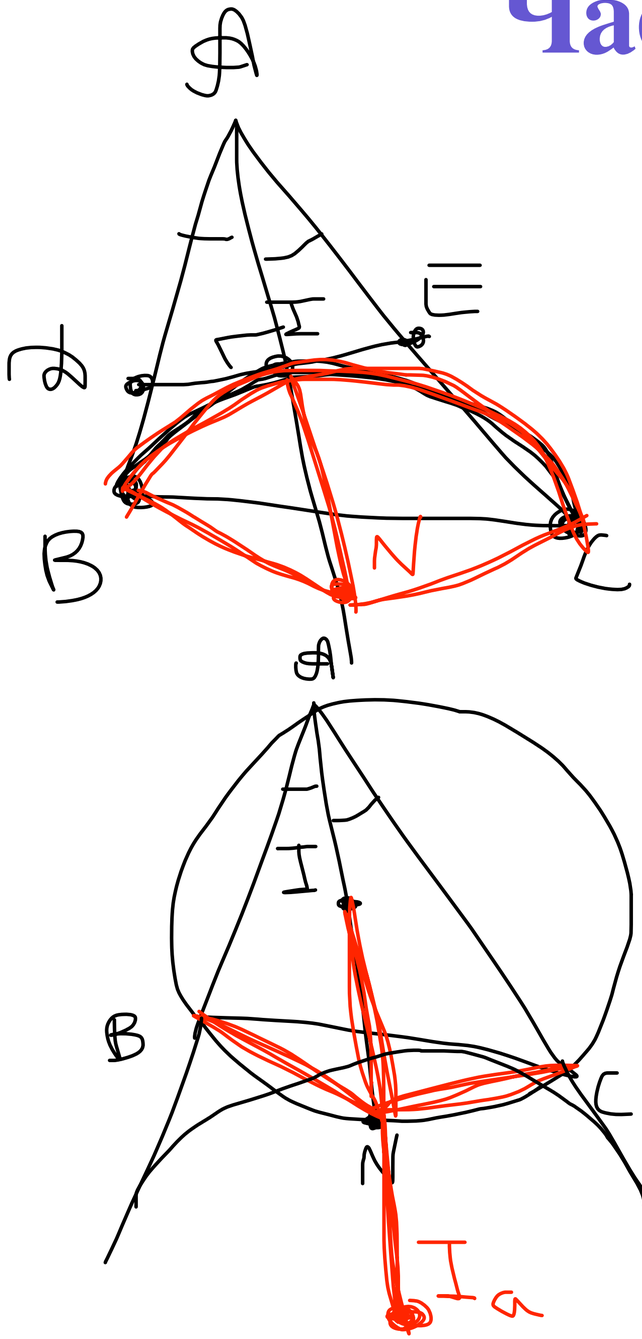
Полувписанная окружность

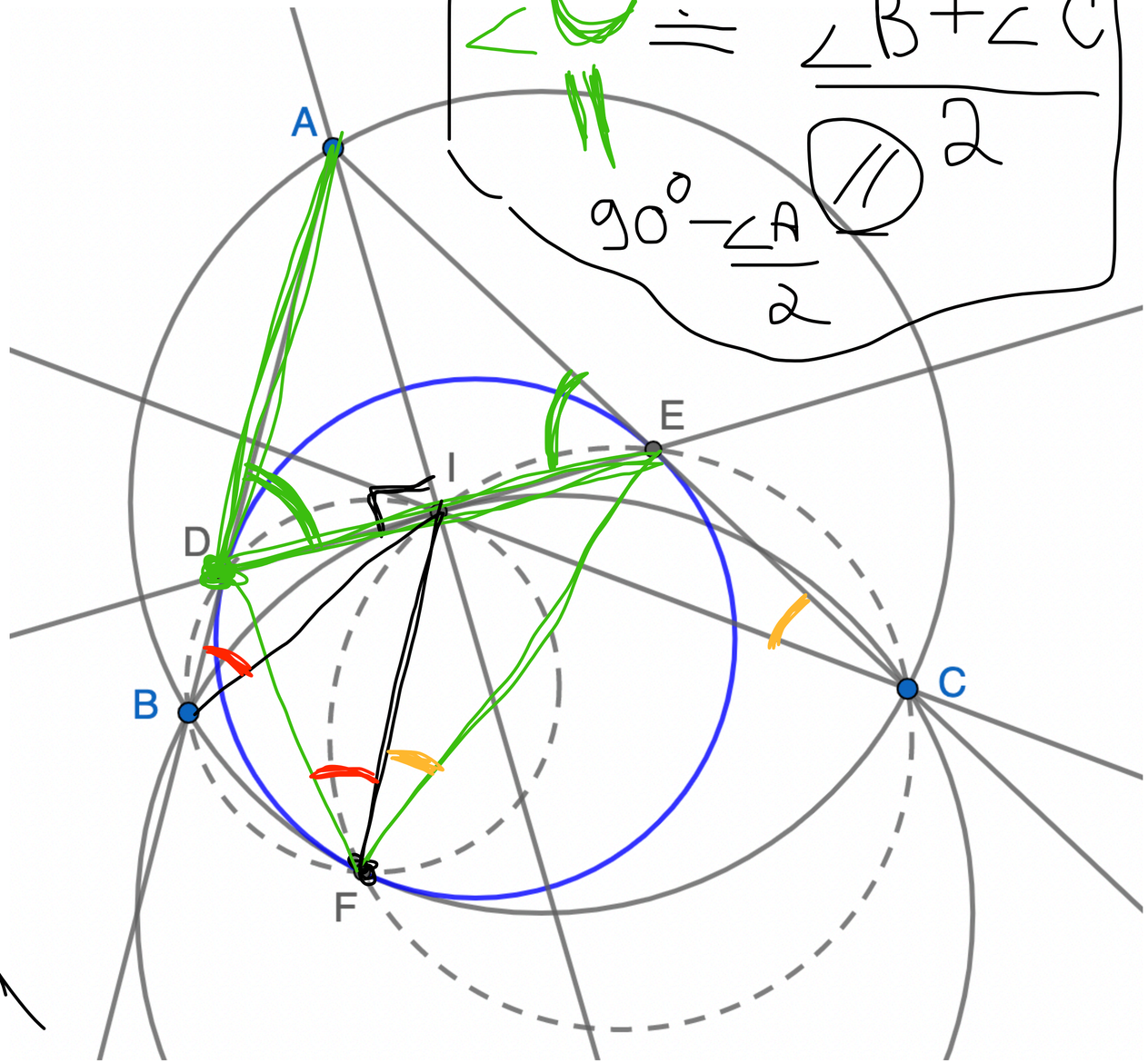
Кухарчук Иван Андреевич

Часть I. Загадочная точка



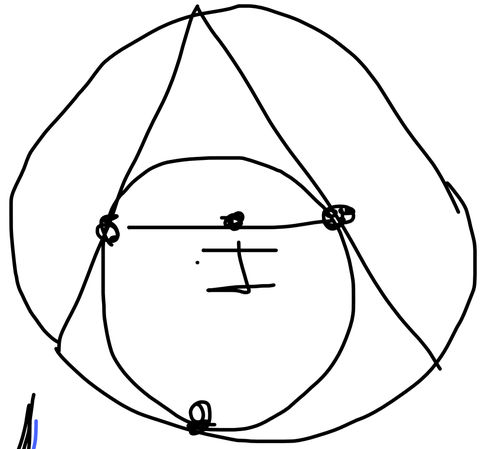
Часть II. Окружность и касание

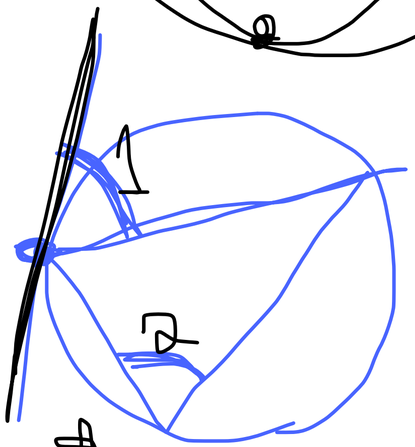


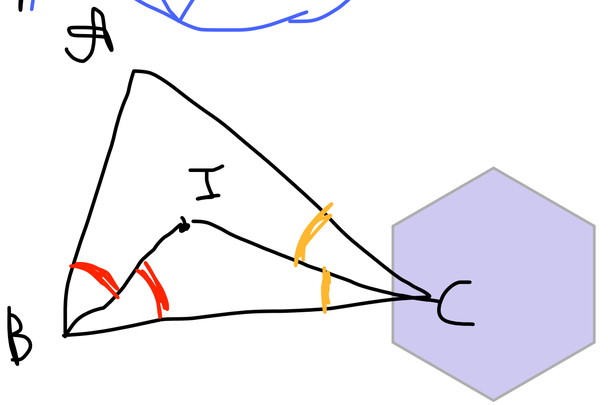


$$\angle ? = \frac{\angle B + \angle C}{2}$$

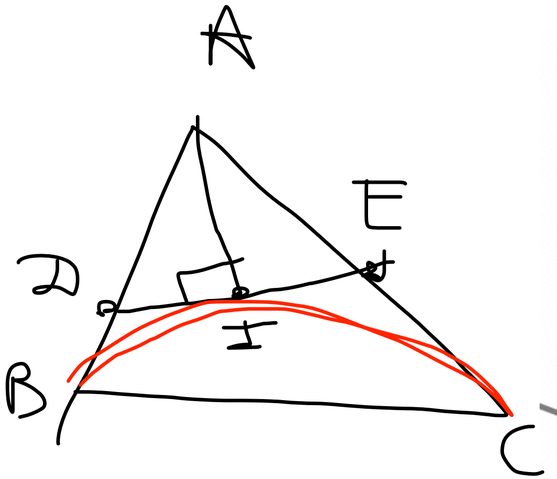
$$90^\circ - \frac{\angle A}{2}$$

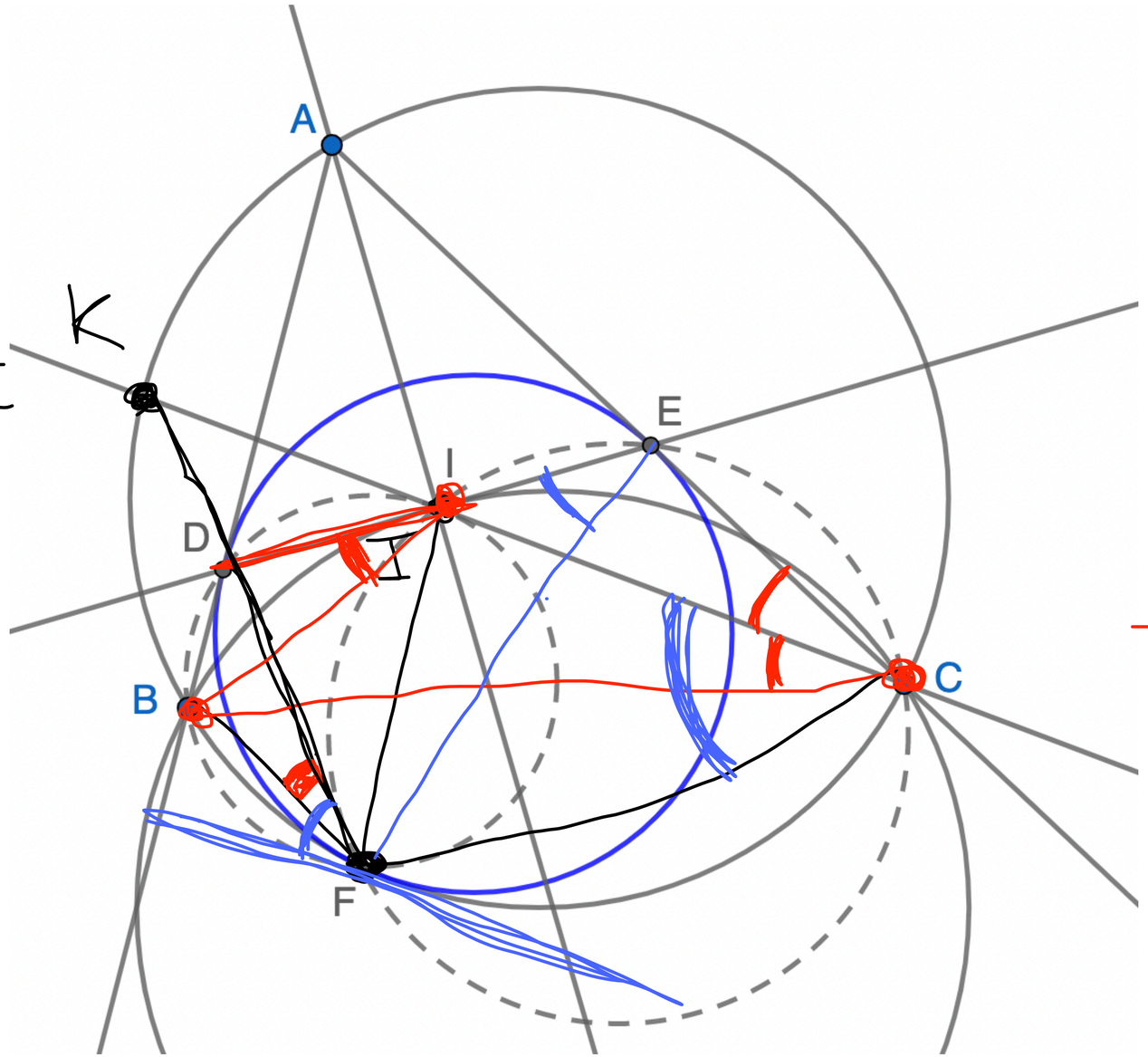


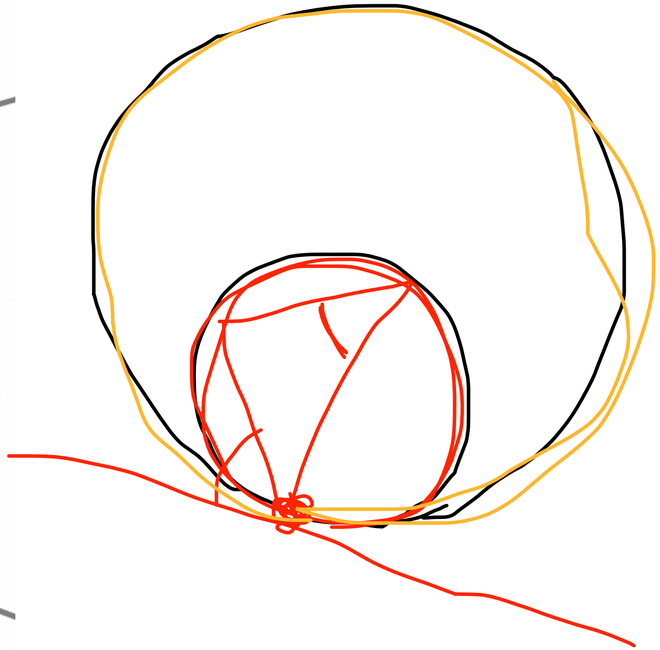


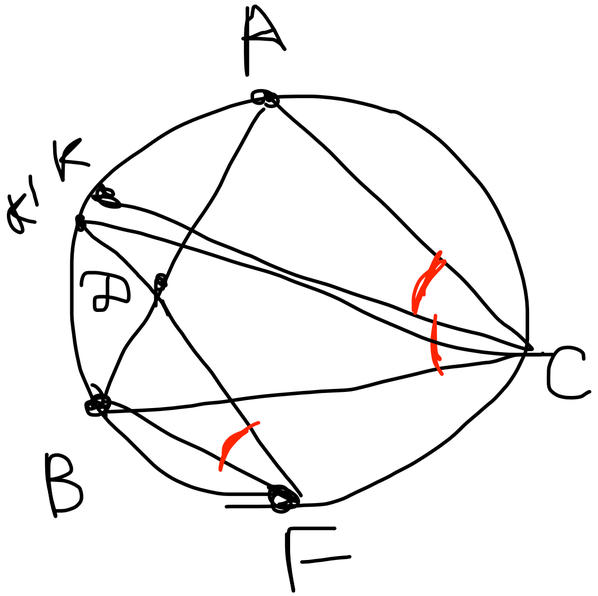


Часть II. Окружность и касание

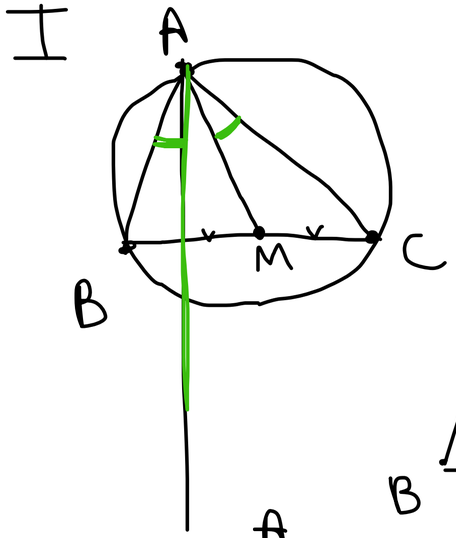


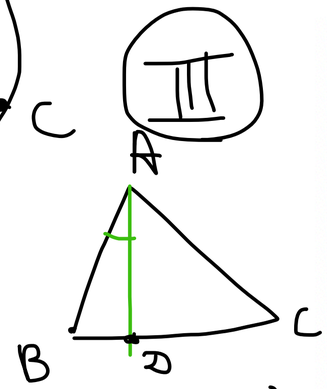


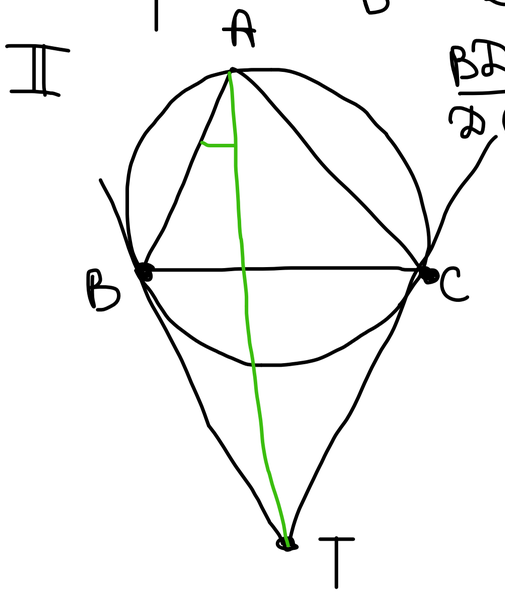




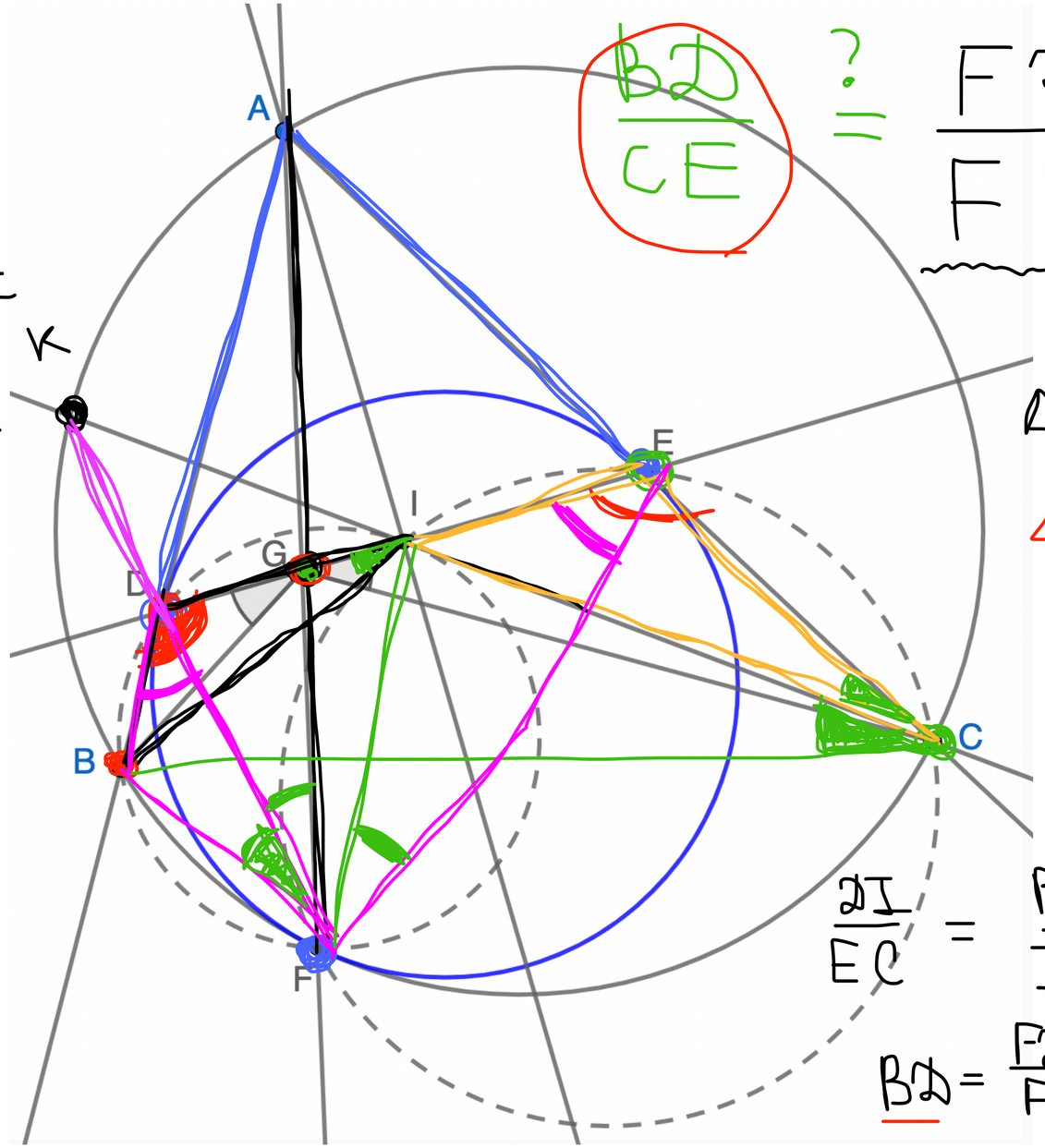
Часть III. Уголочки







$$\frac{BD}{DC} = \frac{AB^2}{AC^2}$$



$$\frac{BD}{CE} \stackrel{?}{=} \frac{FD^2}{FE^2} = \frac{DG}{GE}$$

$$\triangle BDG \sim \triangle CEG$$

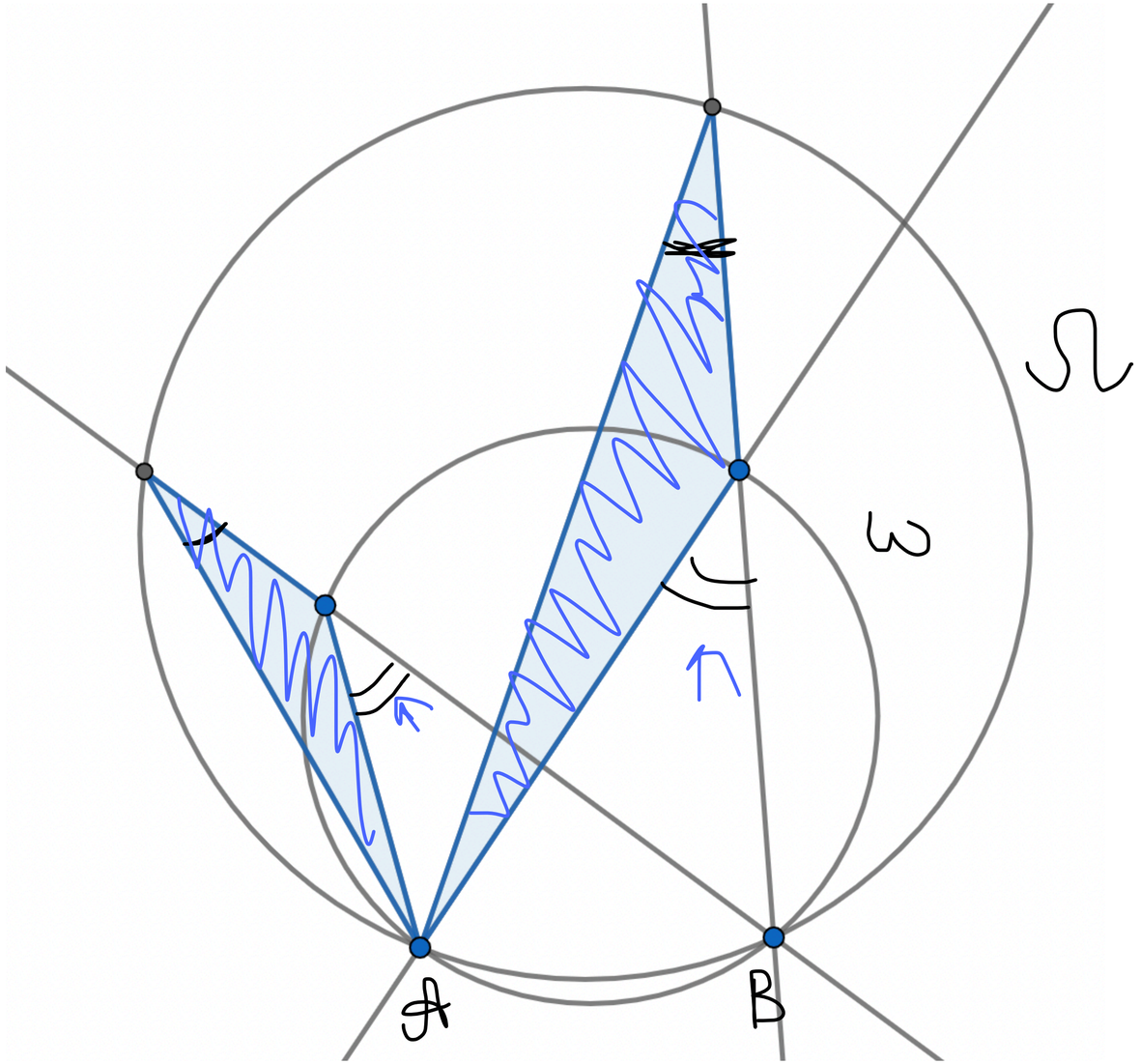
$$\angle BDG = \angle CEG$$

$$\frac{BD}{IE} = \frac{DI}{EC}$$

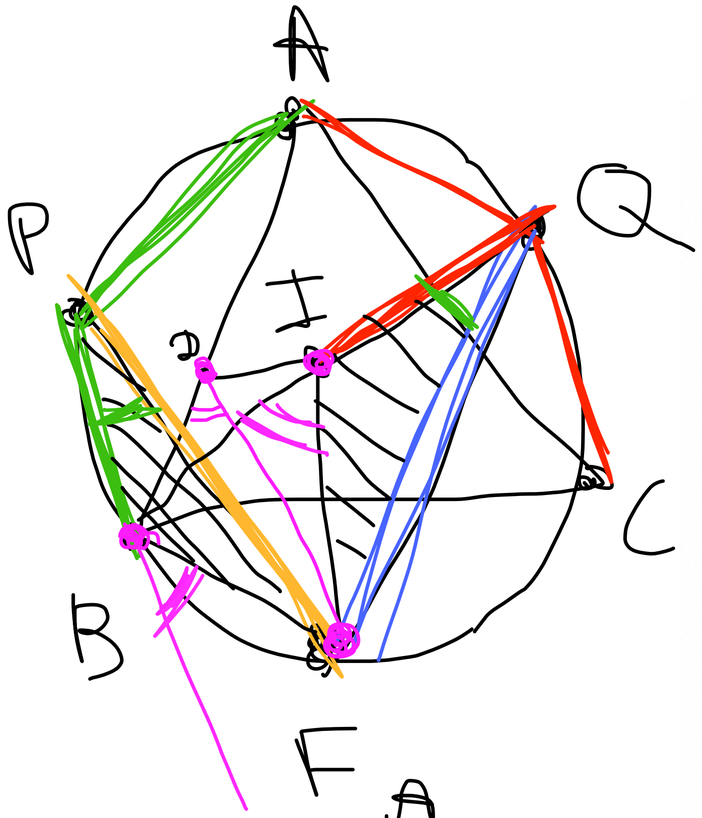
$$\frac{DI}{EC} = \frac{BD}{IE} = \frac{FD}{FE}$$

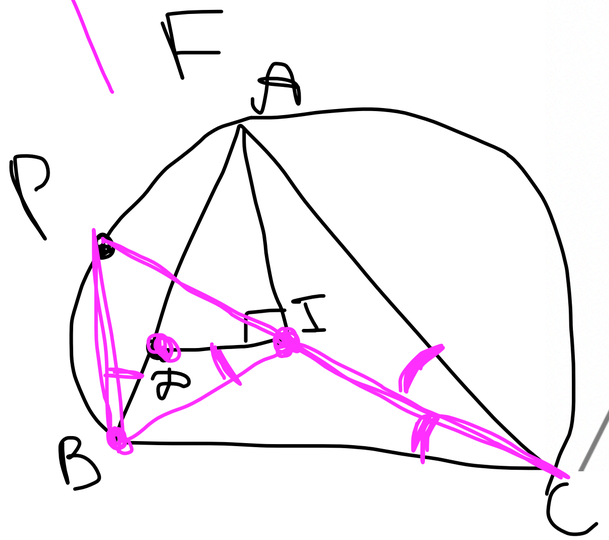
$$BD = \frac{FD}{FE} \cdot IE \qquad CE = \frac{FE}{FD} \cdot DI$$

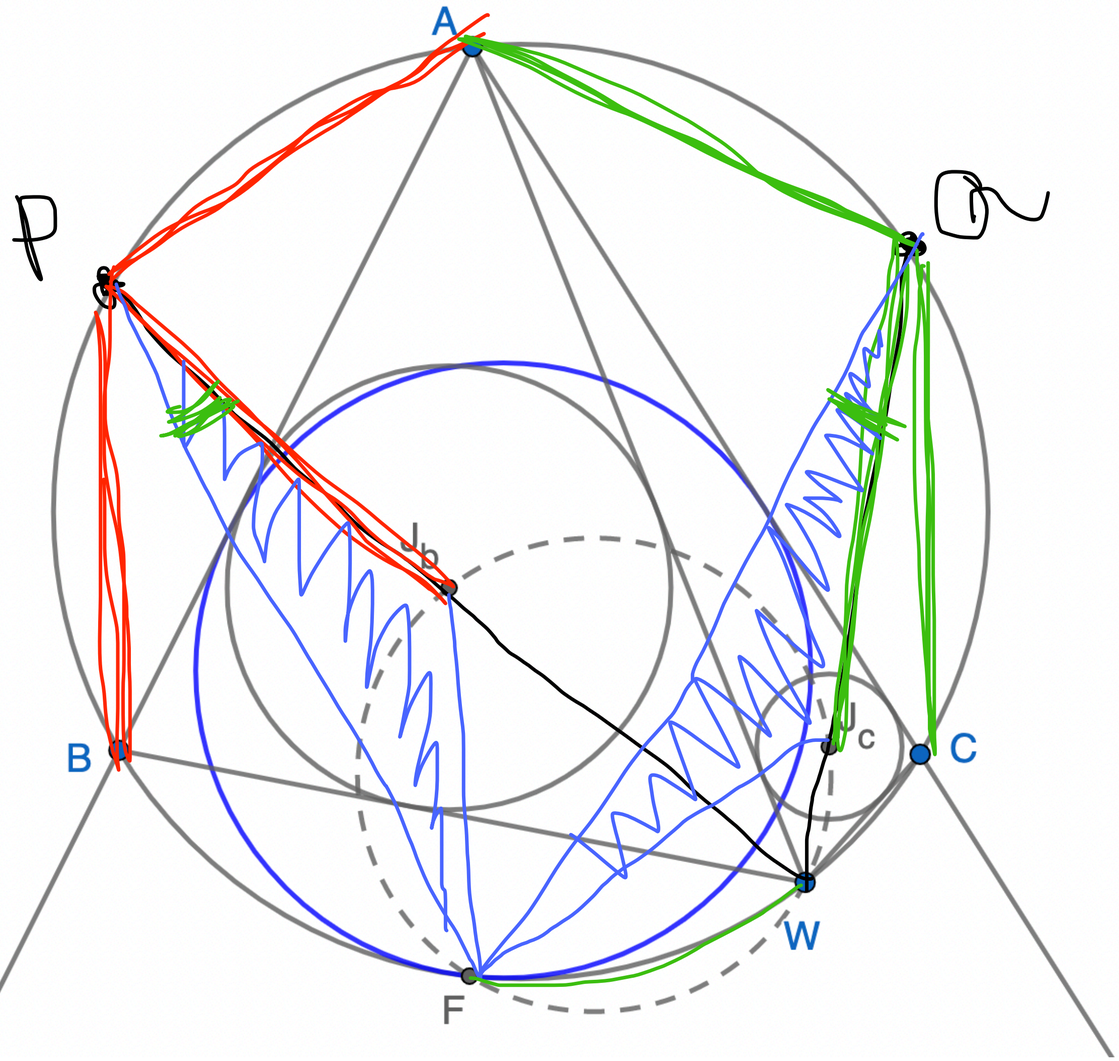
Часть IV. Полезный факт



Часть IV. Фиксированная точка







$$\frac{PB}{AQ} \stackrel{?}{=} \frac{PF}{FQ}$$