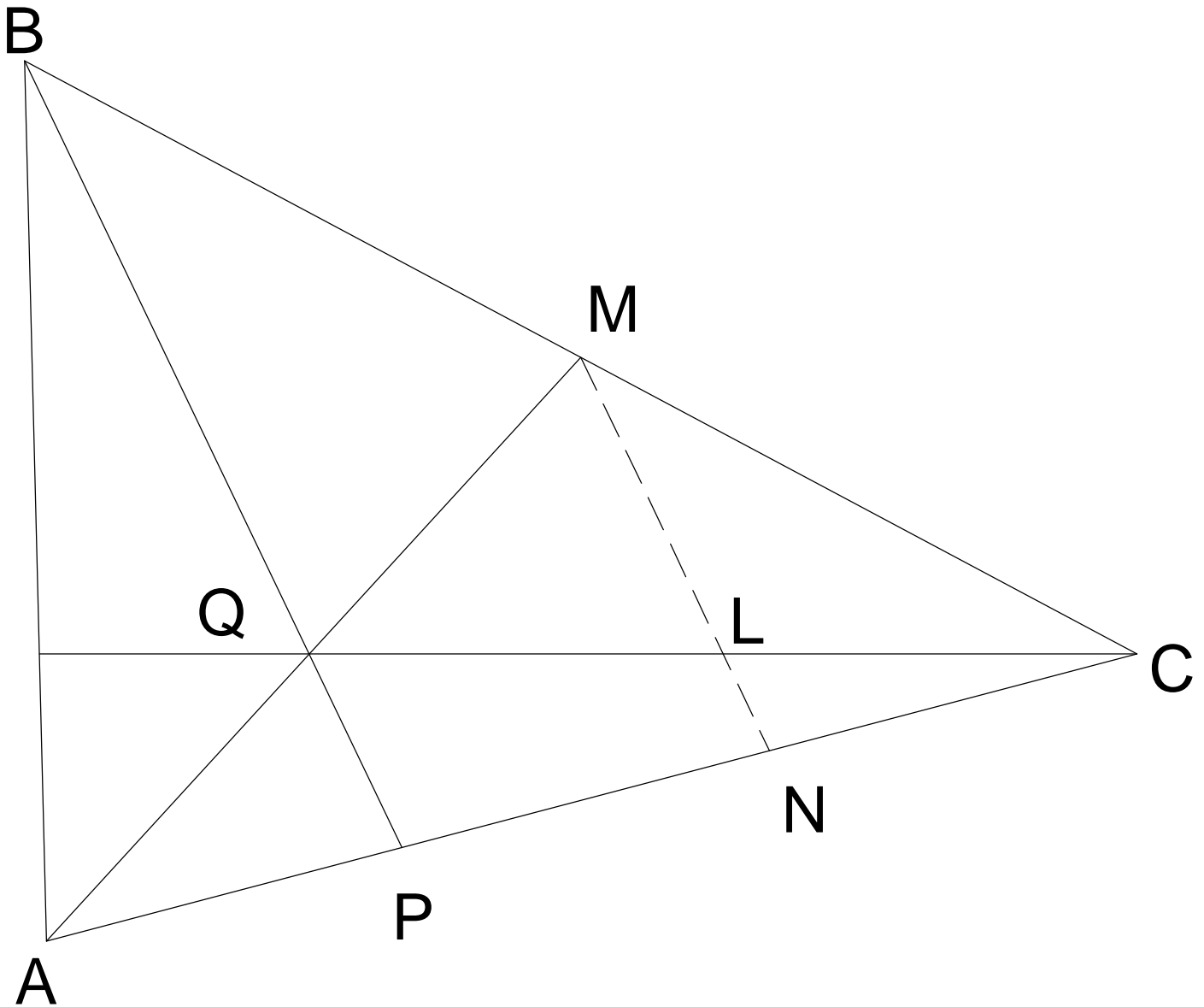


Problem No. 310 Solution



Draw MN parallel with BP.

$$ML = \frac{1}{2} BQ = 60'$$

In triangle AMN and triangle AQP:

$$QP = \frac{1}{2} MN = \frac{1}{2} (ML + LN), \quad LN = \frac{1}{2} QP$$

$$\text{so } QP = \frac{1}{2} (ML + \frac{1}{2} QP)$$

$$2 QP = ML + \frac{1}{2} QP$$

$$4 QP = 2ML + QP$$

$$3 QP = 2ML$$

$$QP = \frac{2}{3} ML = \frac{2}{3} (\frac{1}{2} BQ) = \frac{1}{3} BQ$$

$$QP = \frac{1}{3} BQ = 40'$$