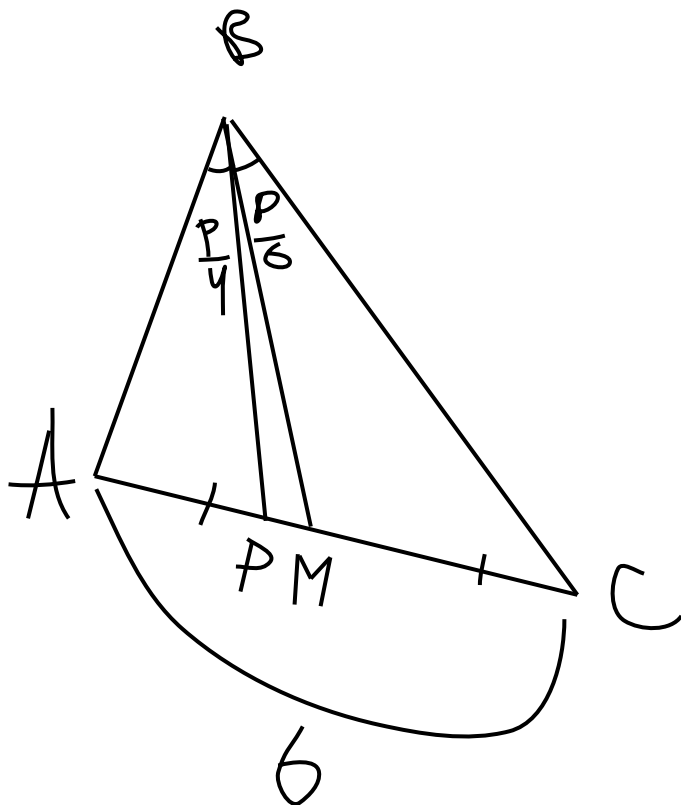


В тр ABC проведены медианы BM и биссектриса BP, известно, что $\angle ABM = P/4$, $\angle CBM = P/6$, $AC = 6$
Найти PM



$$B = P/6 + P/4 = 5P/12$$

$$SABP/SABM = AP/AM = AP/(AP + PM)$$

$$SABM/SABP = 1 + PM/AM$$

$$SABM = \frac{1}{2} \cdot AB \cdot BM \cdot \sin P/4 = SABC = \frac{1}{2} \cdot BM \cdot BC \cdot \sin P/6$$

$$AB \cdot \sin P/4 = BC \cdot \sin P/6$$

$$AB/BC = \sin P/6 / \sin P/4 = (\frac{1}{2}) / (1/\sqrt{2}) = 1/\sqrt{2} = AB/BC = AP/PC$$

$$AP/(6 - AP) = 1/\sqrt{2}$$

$$\sqrt{2}AP = 6 - AP$$

$$AP = 6/(1 + \sqrt{2})$$

$$PM = 3 - 6/(1 + \sqrt{2}) = (3 + 3\sqrt{2} - 6)/(1 + \sqrt{2}) = 3(\sqrt{2} - 1)/(\sqrt{2} + 1) = 3(2 + 1 - 2\sqrt{2}) = 9 - 6\sqrt{2}$$