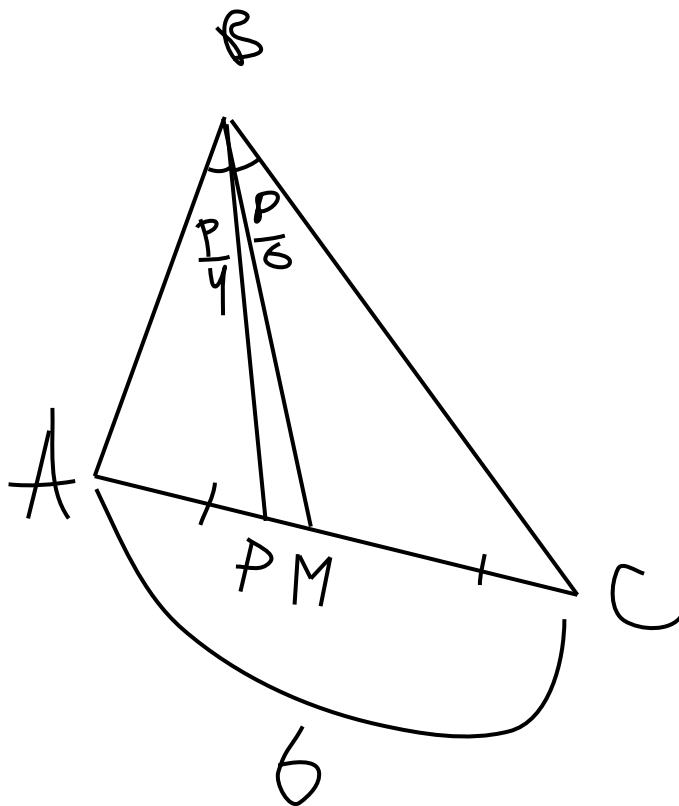


В тр ABC проведены медианы BM и биссектриса BP, известно, что  $\angle ABM = P/4$ ,  $\angle CBM = P/6$ ,  $AC = 6$   
 Найти PM



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

$$S_{ABP} / S_{ABM} = AP / AM = AP / (AP + PM)$$

$$S_{ABM} / S_{ABP} = 1 + PM / AM$$

$$S_{ABM} = \frac{1}{2} \cdot AB \cdot BM \cdot \sin P/4 = S_{ABC} = \frac{1}{2} \cdot BM \cdot BC \cdot \sin P/6$$

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

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

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

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

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

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