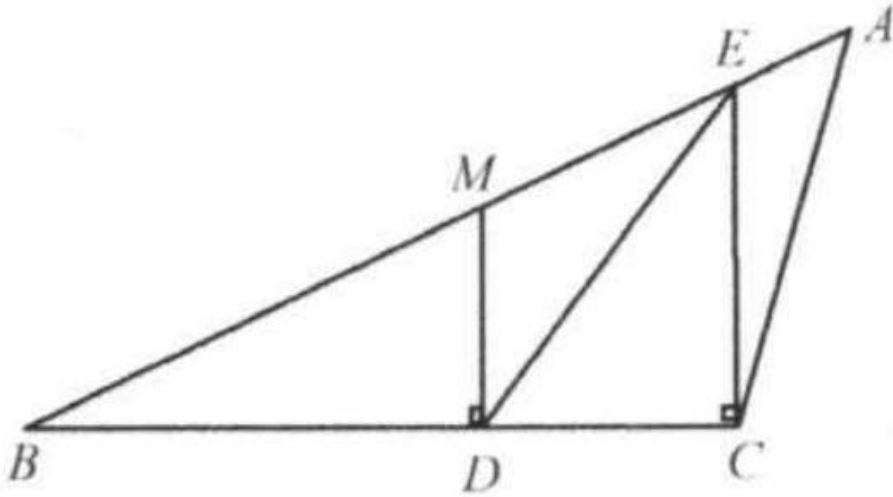


## Problem 4

### Problem

( AMC ) In the obtuse triangle  $ABC$ ,  $AM = MB$ ,  $MD \perp BC$ ,  $EC \perp BC$ . If the area of  $\triangle ABC$  is 24 , find the area of  $\triangle BED$ .



### Solution

12. Draw the median  $MC$  (Figure 1).

Since  $MD$  and  $EC$  are parallel, the colored areas in Figure 2 are the same. The area of  $\triangle BED$  is the same as the area of  $\triangle BMC$  (Figure 3), which is half of the area of  $\triangle ABC$ . The answer is  $24/2 = 12$ .

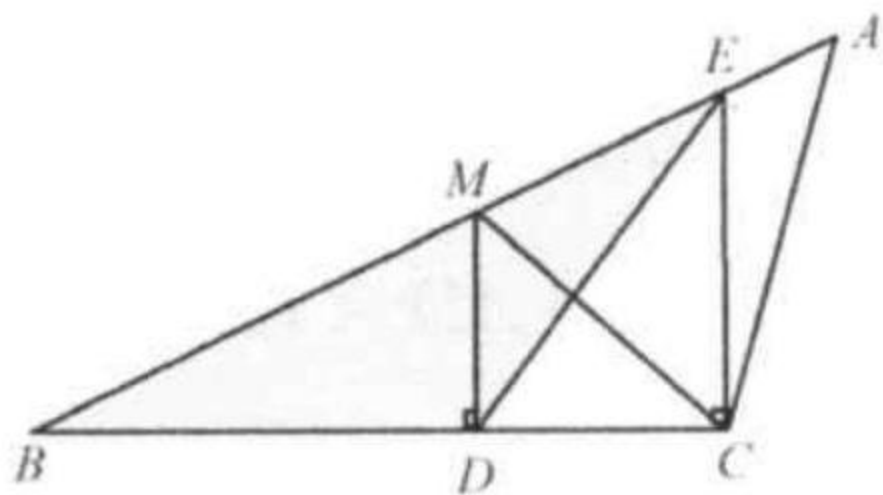


Figure 1

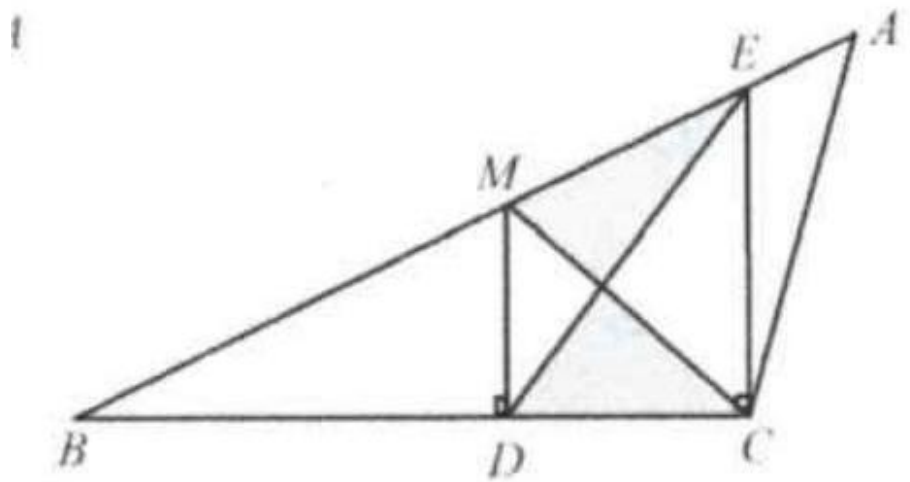


Figure 2

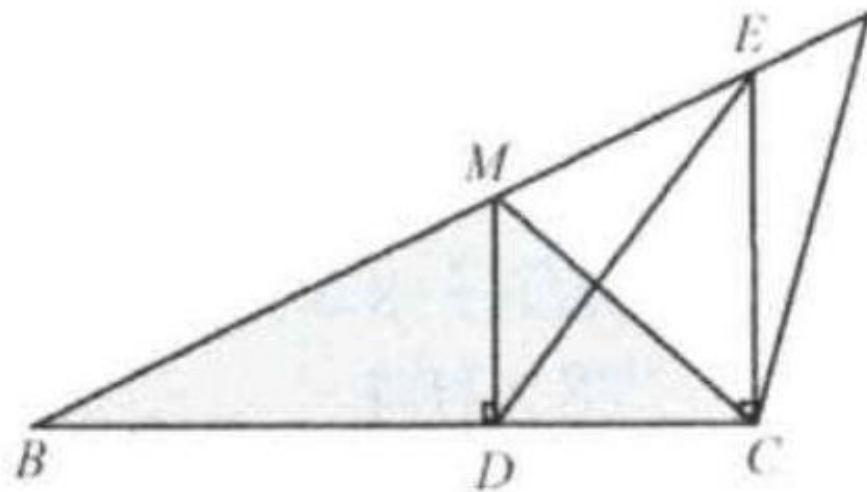


Figure 3