

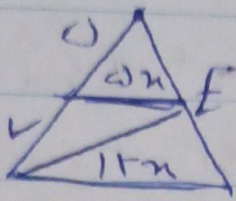
19/5

\* کائنات جعفری \*

Date

Subject

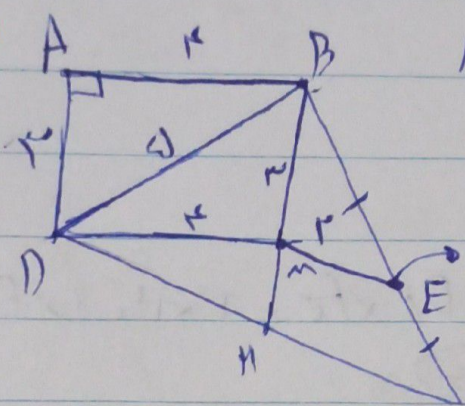
①



$$h_1 = h_2$$

$$\left. \begin{aligned} S_{BEC} &= 12 \text{ m} \times h_1 \\ S_{BDE} &= 2x \times h_1 \end{aligned} \right\} \Rightarrow \frac{12 \text{ m} \times h_1}{2x \times h_1} = \frac{12}{x} \quad (2)$$

②

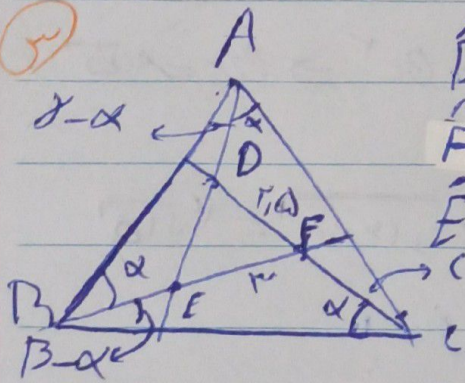


$$\triangle BDM = \triangle DMH \Rightarrow \text{مربعی و متساوی الساقین} \quad (2)$$

$$DM = DH = 2 \Rightarrow \text{میراثی و متساوی الساقین}$$

$$\Rightarrow ME \parallel HC \Rightarrow ME = 2 \quad \checkmark$$

③



$$\hat{D} = \alpha + (C - \alpha) = C$$

$$\hat{F} = \alpha + (\beta - \alpha) = \beta$$

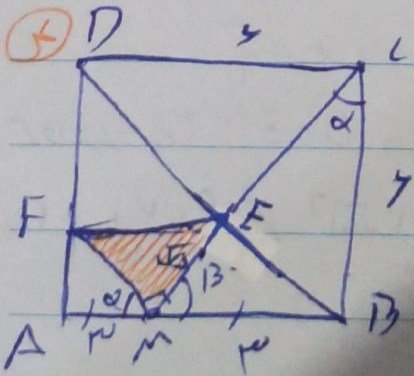
$$\hat{E} = \alpha + (C - \alpha) = C$$

$$\Rightarrow \triangle ABC \sim \triangle DFE$$

$$\Rightarrow \frac{BC}{DF} = \frac{AB}{EF} \Rightarrow \frac{1}{2/5} = \frac{AB}{2}$$

$$\Rightarrow AB = 2, 5 \quad \checkmark$$

④



$$MC = 2\sqrt{5} \quad \frac{EC}{ME} = \frac{2}{1} \quad (2)$$

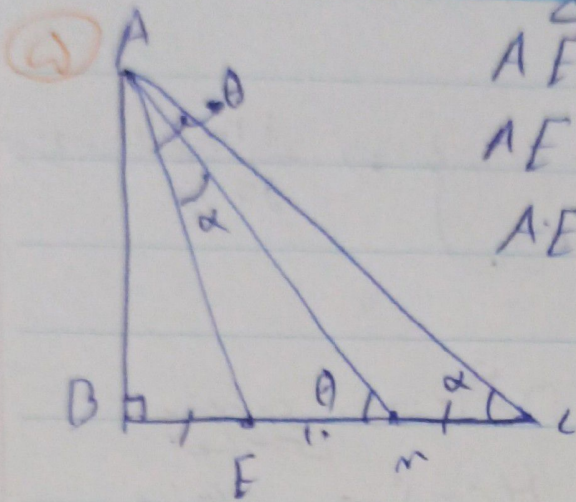
$$\Rightarrow 2\sqrt{5} \times \frac{1}{2} = BE = \sqrt{5}$$

$$EM = 1, 4 \sqrt{5}$$

$$S_{FME} = \frac{1}{2} \times 1, 4 \sqrt{5} \times \sqrt{5} = \frac{1}{2} \times \frac{7}{2} \times 5$$

$$\frac{14}{2} \quad \checkmark$$

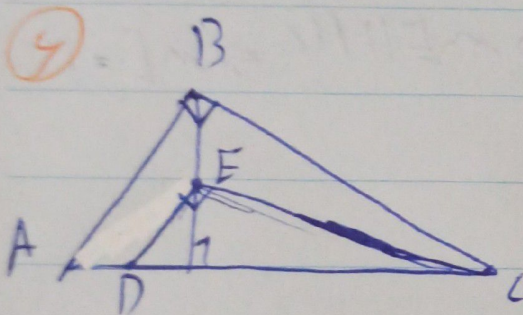
PARCIS



$$\triangle AEC \sim \triangle AFD$$

$$\left. \begin{aligned} AE^2 &= 10 + 10x \\ AE^2 &= x^2 + 11 \end{aligned} \right\} \begin{aligned} x^2 - 10x + 1 &= 0 \\ x &= 1 \text{ or } 11 \end{aligned}$$

(r)



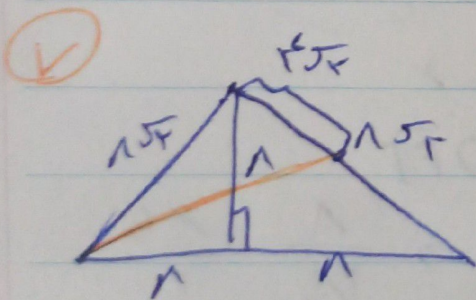
$$EF^2 = DF \times FC = 1^2 \times 1^2 = 1 \times 1$$

$$\Rightarrow FC = 1$$

(r)

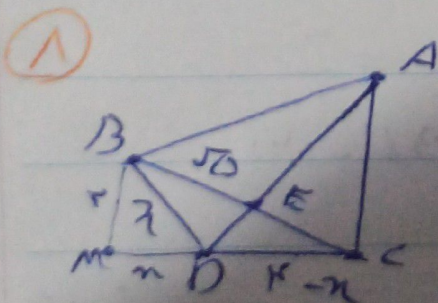
$$BF^2 = 1^2 \times 1^2 \Rightarrow BF = 1 \times 1 = 1$$

$$FB^2 + FC^2 = BC^2 \Rightarrow BC = \sqrt{2}$$



$$\Rightarrow \angle C = \sqrt{1^2 \times 1^2 + 1^2 \times 1^2} = \sqrt{2}$$

(r)



$$x^2 + 1 = (1-x)^2 \Rightarrow x = \frac{1}{2}$$

(r)

$$BC^2 = 1^2 + 1^2 \Rightarrow BC = \sqrt{2} \Rightarrow BE = \sqrt{2}$$

$$DE = \frac{\sqrt{2}}{2} \Rightarrow AE = \sqrt{2} / \left( \frac{1}{2} \times \sqrt{2} \times \sqrt{2} \right) = \sqrt{2}$$

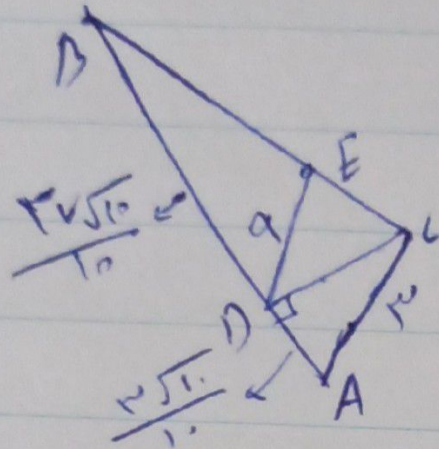
$$\frac{1}{r} AE + BE = \sqrt{2} + \sqrt{2} = 2\sqrt{2}$$

دقت!

Date \_\_\_\_\_

Subject \_\_\_\_\_

(9)



طول  $BE$  رو می‌خوایم!  $AB = 3\sqrt{10}$

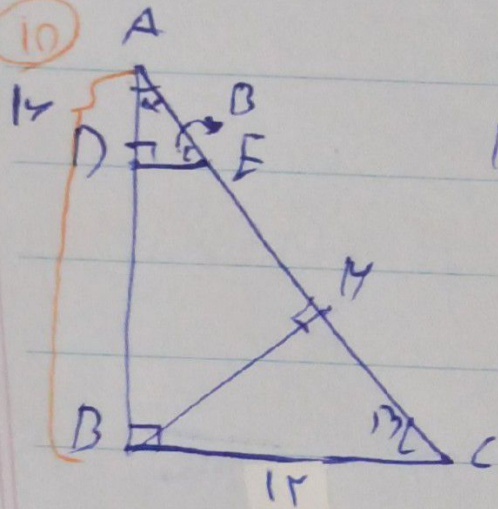
$$9 = AD \times 3\sqrt{10} \Rightarrow AD = \frac{9}{3\sqrt{10}} = \frac{3}{\sqrt{10}}$$

$$\frac{BE}{BC} = \frac{\frac{3\sqrt{10}}{10}}{\frac{3\sqrt{10}}{1}} = \frac{9}{10} \in (0,1) \checkmark$$

(1,75)

$$BE = 0,9 BC = \frac{1,1}{9}$$

(10)



$$AC = 20 \quad AB^2 = AC \times AH$$

$$17 \times 17 = 20 \times AH \Rightarrow AH = \frac{17 \times 17}{20} \quad (2)$$

$$\triangle AED \sim \triangle ABC \Rightarrow AE = \frac{17 \times 15}{20}$$

$$DE = BC \times \frac{AE}{AC} \Rightarrow \frac{47}{20} = 17,15 \checkmark$$