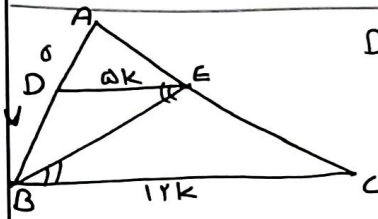


نام و نام خانوادگی: فرزند:
پاسخنامه تشریحی تکلیف شماره ۱۲۰ کلاس ۱۰، نیمه دوم، بهار ۱۳۹۰



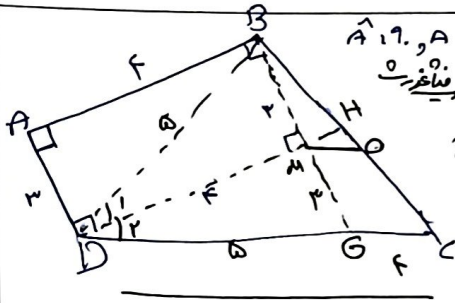
$$DE \parallel BC \rightarrow \frac{AD}{AB} = \frac{DE}{BC} \rightarrow \frac{DE}{BC} = \frac{5}{12} \rightarrow DE = 5k, BC = 12k$$

$$S_{BDE} = \frac{1}{4} \cdot 5k \times BE \times \sin \hat{B}$$

$$S_{BEC} = \frac{1}{4} \cdot 12k \times BE \times \sin \hat{B}$$

$$\frac{S_{BDE}}{S_{BEC}} = \frac{5}{12}$$

البته سوال نسبت $\frac{SBCE}{SBDE}$ رو می خواد!

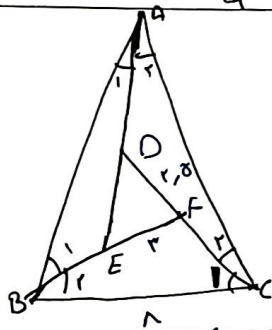


مستقیم $\hat{A}$ و $\hat{C}$ ، $AB \parallel DM$ ، $AD \parallel BM \rightarrow ABMD$ متوازی الاضلاع
 $\xrightarrow{\text{متوازی الاضلاع}} \sqrt{r^2 + f^2} \quad BD \rightarrow BD = 2\omega$

$$D_1 = D_2 \rightarrow \angle BDM = \angle DGM \rightarrow DG = \omega, GM = r$$

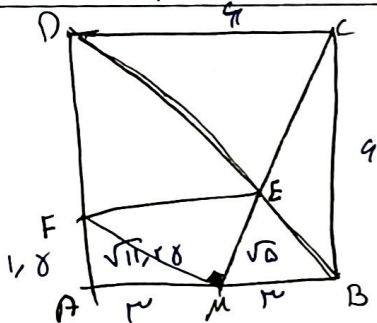
BO وسط AC و BC وسط $AC \rightarrow MO \parallel GC$

$$\rightarrow \frac{BM}{BO} = \frac{BO}{BC} = \frac{OM}{GC} \rightarrow \frac{1}{r} = \frac{OM}{r} \rightarrow OM = r$$



$$B_1 + A_1 = E \quad \xrightarrow{B_1 + A_1} \angle E = A, \quad \text{طبقه مشابه} \quad F = B, D = C$$

$$\frac{AB}{r} = \frac{1}{r_1 \delta} \rightarrow AB = 7,9$$



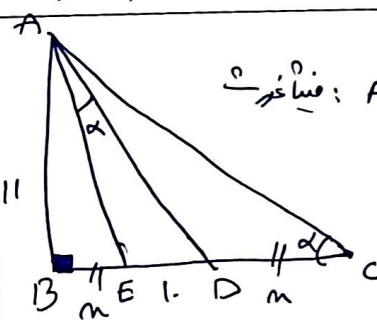
$$AFM \sim MBC \rightarrow \frac{AF}{C} = \frac{C}{q} \rightarrow AF = 1,0$$

$$\xrightarrow{\text{متوازی الاضلاع}} r^2 + 1,0^2 = MF^2 \rightarrow MF = \sqrt{11,28}$$

$$MFB \sim BEC \rightarrow ME = EC \rightarrow ME = \frac{MC}{2}$$

$$\rightarrow MC = 2\sqrt{5} \rightarrow ME = \sqrt{5}$$

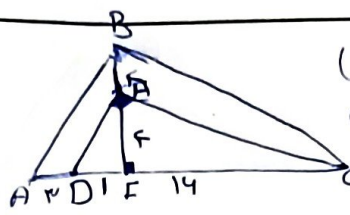
$$\rightarrow S_{FEM} = \frac{\sqrt{5} \times \sqrt{11,28}}{2} = 2,178$$



$$\xrightarrow{\text{متوازی الاضلاع}} AE = \sqrt{121 + m^2} \quad | \quad AED \sim AEC \rightarrow \hat{E} = \hat{E}, \hat{C} = \hat{A}$$

$$\rightarrow \frac{\sqrt{121 + m^2}}{1 + m} = \frac{10}{\sqrt{121 + m^2}} \rightarrow 121 + m^2 = 100 + m^2$$

$$\rightarrow (m - 10)(m + 10) = 0 \rightarrow m = 10, m = -10$$

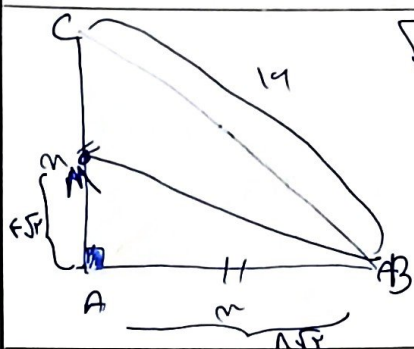


$$(FE)^2 = DF \times FC \rightarrow 14 \times 14 \times FC \rightarrow FC = 14$$

$$(BF)^2 = (AF) \times FC \rightarrow BF = \sqrt{14 \times 14} = 14 \rightarrow BE = 14$$

$$(BC)^2 = FC \times AC \rightarrow BC = \sqrt{14 \times 28} = 14\sqrt{2}$$

2

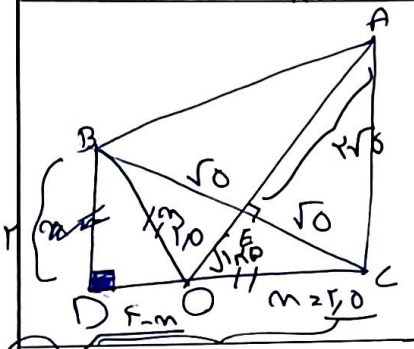


$$\sqrt{14^2} = 14 \rightarrow 14 = 14\sqrt{2}$$

$$BM = \sqrt{(14\sqrt{2})^2 + (11\sqrt{2})^2}$$

$$\rightarrow BM = \sqrt{196 + 121} = \sqrt{317} = 17.8$$

2



$$OC = OB = m$$

$$\rightarrow F + 14 = m + m^2 \rightarrow m = 2, 8$$

$$\text{مسألة: } DC: \rightarrow r^2 + F^2 = BC^2 \rightarrow B = 2\sqrt{5}$$

$$OC = OB \rightarrow \text{مسألة: } BE: EC = \frac{r\sqrt{5}}{r} = \sqrt{5}$$

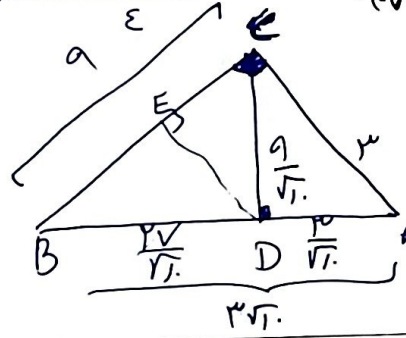
$$\text{مسألة: } OE: (\sqrt{5})^2 + OE^2 = (r\sqrt{5})^2 \rightarrow OE = \sqrt{1} \times \sqrt{5}$$

$$(r\sqrt{5})^2 + \sqrt{5} \times \sqrt{5} = AE^2 \rightarrow AE = 2\sqrt{5} \rightarrow SAEB = 2\sqrt{5} \times \sqrt{5}$$

$$r^2 + r^2 = (AB)^2 \rightarrow AB = 2\sqrt{2}$$

2

2



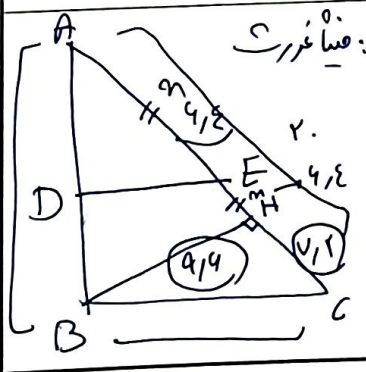
$$DC = \frac{r \times 9}{r\sqrt{2}} = \frac{9}{\sqrt{2}}$$

$$AE = AD \times \frac{r\sqrt{2}}{r} \rightarrow \frac{AD}{r} \rightarrow BD = r\sqrt{2} - \frac{r}{\sqrt{2}} = \frac{r\sqrt{2}}{\sqrt{2}}$$

$$(BD)^2 = BC^2 \times EB \rightarrow (\frac{r\sqrt{2}}{\sqrt{2}})^2 = 9 \times EB \rightarrow EB = \frac{11}{\sqrt{2}}$$

2

2



$$\text{مسألة: } (14)^2 + (11)^2 = AC^2 \rightarrow AC = 28$$

$$BH = \frac{11 \times 14}{11} \rightarrow BH = 14$$

$$\text{مسألة: } HC = (\sqrt{1})$$

$$\rightarrow AH = 11 - \sqrt{1} = 10 \rightarrow \frac{10}{11} = \frac{DE}{11} \rightarrow DE = 10$$

2

1.