

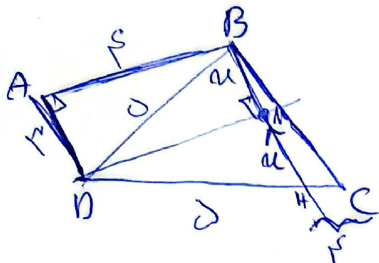
$$DE \parallel BC \rightarrow \frac{AD}{AB} = \frac{DE}{BC} \rightarrow \frac{D}{1r} = \frac{DE}{BC}$$

1A

3, 2, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

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$$\frac{S_{\triangle BCE}}{S_{\triangle BDE}} = \frac{EH_2 \times BC}{DH_1 \times DE} = r, r \checkmark$$



$$\left. \begin{array}{l} AD \parallel BM \\ BM \parallel AB \\ A = 90^\circ \end{array} \right\} \Rightarrow \square ABCD \quad BM = r, DM = r$$

$$ME \parallel BC$$

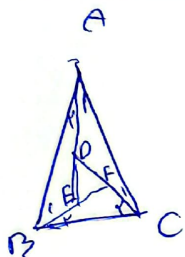
$$BM = MH = r' \quad \frac{CE}{CB} = \frac{MH}{HD} = \frac{1}{r}$$

$$DC = DB$$

$$\frac{ME}{HC} = \frac{BE}{DC} = \frac{1}{r} \rightarrow ME = r \checkmark$$

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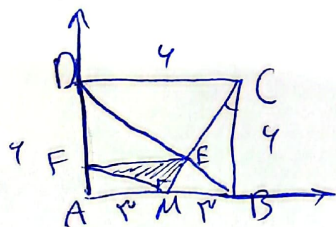
$$\left. \begin{array}{l} D = A + C_1 \\ A = C_1 \end{array} \right\} \rightarrow D_1 = C_1 + C_2$$

$$\left. \begin{array}{l} F = B_1 + C_1 \\ C_1 = B_1 \end{array} \right\} \rightarrow F = B_1 + B_2$$

$$\Rightarrow DEF \sim ABC$$

$$\frac{FE}{AB} = \frac{DE}{BC} \sim \left(AB = \frac{94}{1} \right) = 9,7 \checkmark$$

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$$MCB \sim AMF \rightarrow \frac{AM}{BC} = \frac{AF}{BM} = \frac{FM}{MC}$$

فردی، دو، سه، چهار، پنج، شش، هفت، هشت، نه، ده، یازده، شانزده، هجده، نوزده، بیست

$$\frac{r}{9} = \frac{AF}{r} = \frac{FM}{MC} \rightarrow AF = 1,0$$

$$F = (0, 1, 0) \quad M = (r, 0)$$

$$B = (4, 0) \quad D = (0, 4)$$

$$C = (4, 0)$$

$$BD = y = 4x + 4 \quad MC = y = 4x - y$$

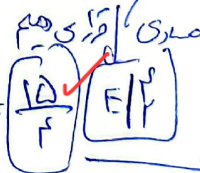
$$m = \frac{-4}{4}$$

$$m = \frac{4}{r}$$

$$ME = \sqrt{r^2 + 1^2} = \sqrt{5}$$

$$FM = \sqrt{r^2 + \left(\frac{4}{r}\right)^2} = \frac{r}{r} \sqrt{5}$$

$$S_{EMF} = \frac{\sqrt{5} \times \frac{4}{r} \sqrt{5}}{r} = \frac{10}{r}$$



جواب

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$$DE = \frac{9,7 \times 8,1}{17} = 4,6 \text{ Af} \quad \checkmark$$