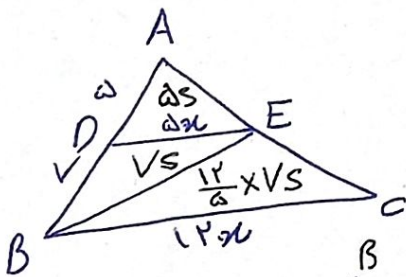


①

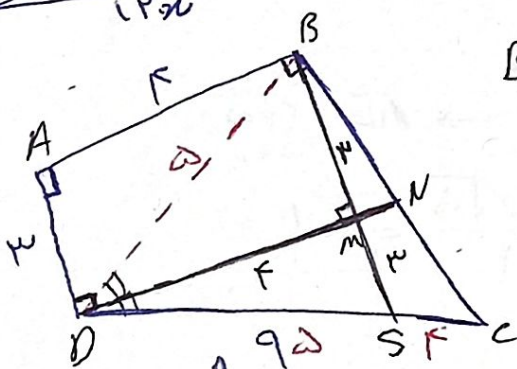


$$\frac{\frac{1/2 \times V}{\Delta}}{V} = \frac{1/2}{\Delta}$$

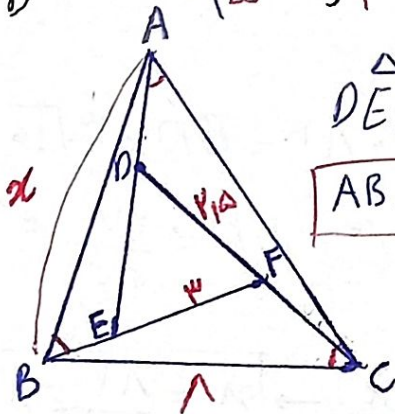
$\triangle BMD \cong \triangle SMD \rightarrow \overline{BM} = \overline{MS} = 3$

$MN = 2 \leftarrow \frac{MN}{SC} = \frac{1}{2}$

②



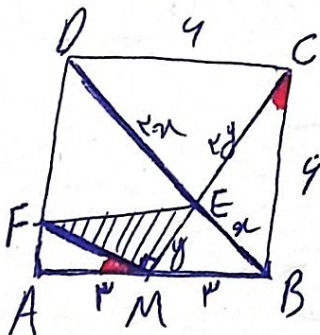
③



$\triangle DEF \sim \triangle ABC \rightarrow \frac{AB}{3} = \frac{1}{1/2}$

$AB = x = 9/2$

④

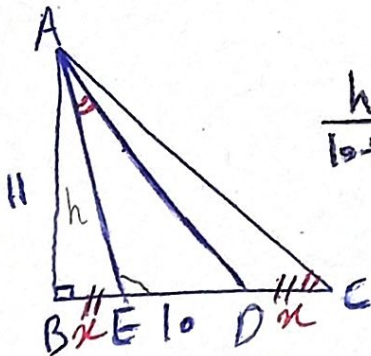


$\triangle MBC \sim \triangle MFA \rightarrow MC = 3\sqrt{5}, FM = \frac{3\sqrt{5}}{2}$

$MC = 3\sqrt{5} \rightarrow ME = \frac{3\sqrt{5}}{2}$

$$S_{EMF} = \frac{3\sqrt{5}}{2} \times \frac{3\sqrt{5}}{2} \times \frac{1}{2} = \frac{15}{2}$$

⑤



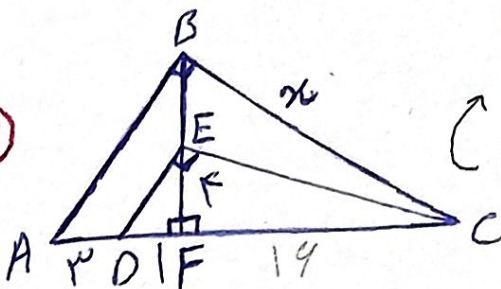
$\frac{h}{10+x} = \frac{10}{h} \rightarrow h^2 = 10(10+x)$

$h^2 = 100 + 10x \rightarrow 100 + 10x = x^2 + 100$

$x^2 - 10x + 100 = 0$

$(x-3)(x-7) = 0 \rightarrow x=3 \text{ or } x=7$

⑥



$x^2 = 14 \times 10 \rightarrow x = 1\sqrt{14}$

$14 = 1 \times FC \rightarrow FC = 14$