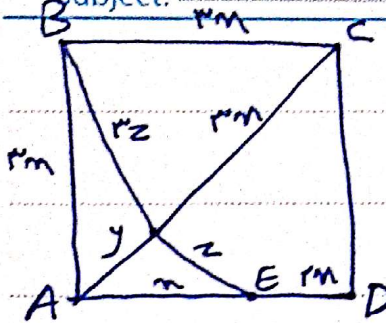


19

(مسئله کاظمی) (کروڑ)

Subject:

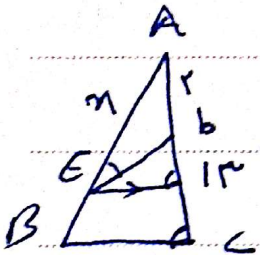


$$BE \rightarrow \sqrt{r^2 + r^2} m = \sqrt{10} m$$

(2) - 1

$$EF \rightarrow \frac{1}{5} \sqrt{10} m$$

$$AC \rightarrow 2\sqrt{2} m \quad \frac{EF}{AF} = \frac{\frac{1}{5} \sqrt{10} m}{\frac{1}{5} \times 2\sqrt{2} m} = \frac{\sqrt{5}}{2} \checkmark$$



$$\triangle ADE \sim \triangle ABC \rightarrow \frac{r}{m+n} = \frac{n}{10} \rightarrow \boxed{n=a} \checkmark$$

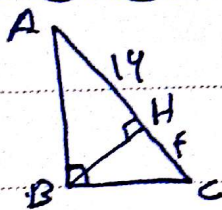
(2) - 5

$$m = 2K \quad \frac{ra}{r+a} = \frac{2K}{9K} = \frac{1}{9} \rightarrow a = \frac{r}{9} = 0.11r$$



(2)

10



$$(BC)^r = r \times 20 \rightarrow BC = \sqrt{10} = 2\sqrt{5}$$

$$(AB)^r = 14 \times 20 \Rightarrow AB = \sqrt{40} = 2\sqrt{10}$$

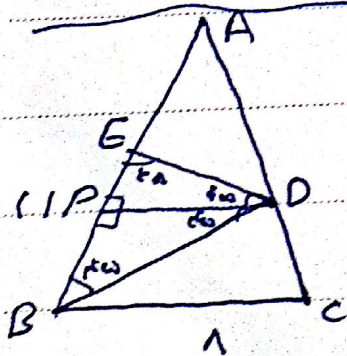
$$\frac{AB}{BC} = \frac{2\sqrt{10}}{2\sqrt{5}} = 2 \leq \frac{1}{5} \checkmark$$

$$\triangle BAF \sim \triangle ECF \rightarrow \frac{BF}{EF} = \frac{AF}{CF} \rightarrow \frac{9}{m} = \frac{n+n}{n} \rightarrow n(m+n) = 9n$$

$$\boxed{AF=12} \checkmark$$

(2)

15



$$DP = \frac{\sqrt{r}}{r} \times \sqrt{20} \Rightarrow \omega, \omega = EP, PP$$

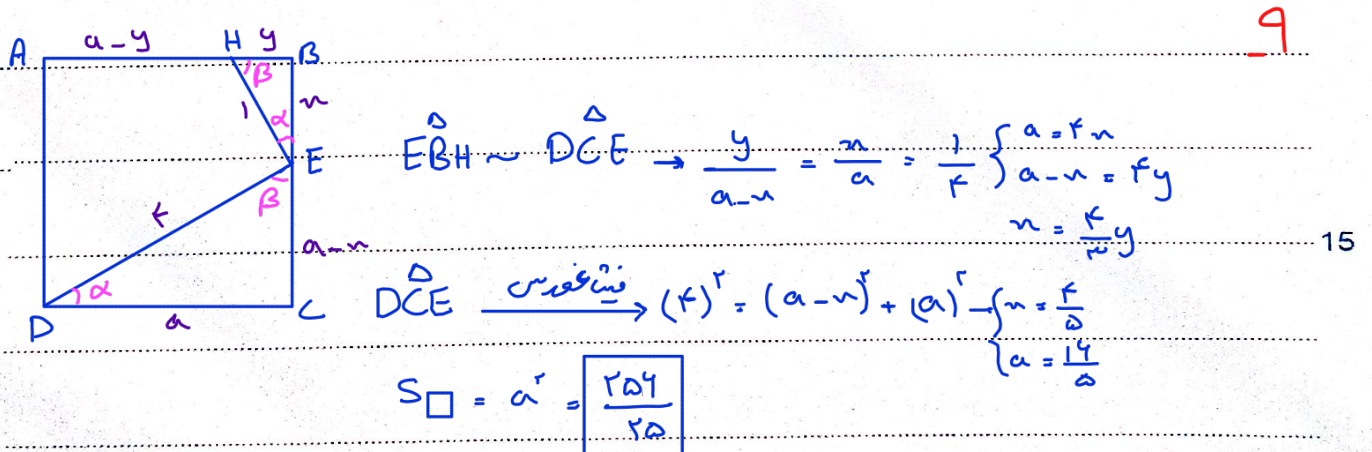
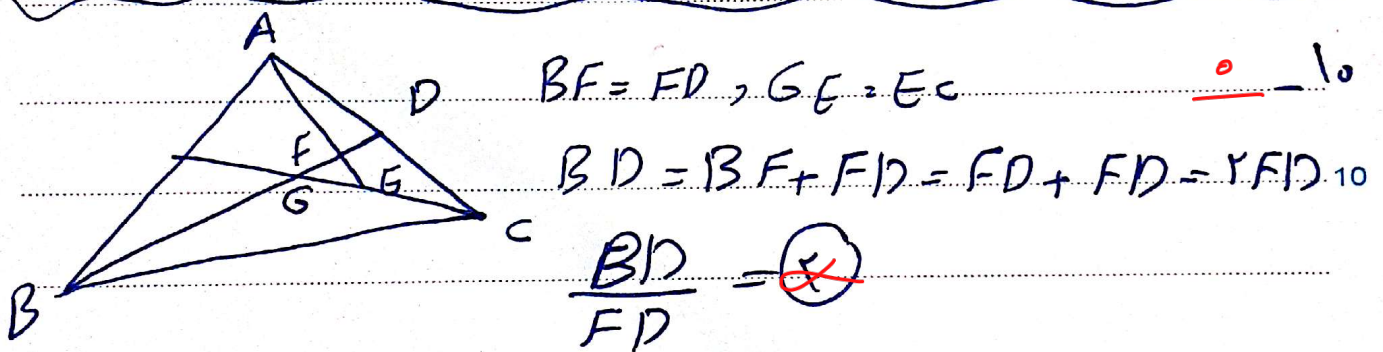
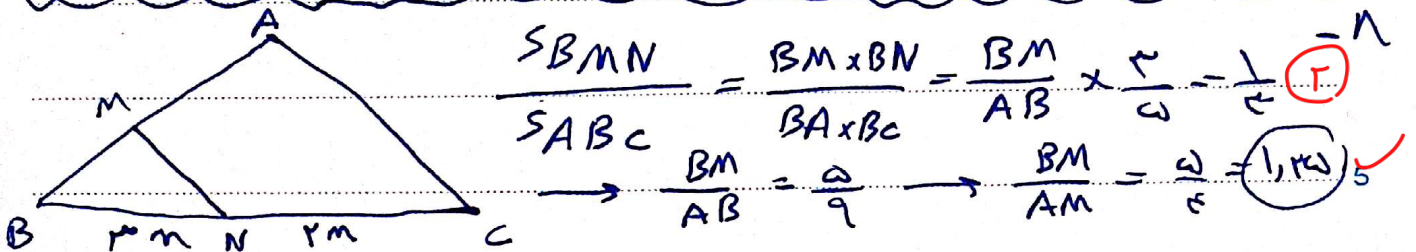
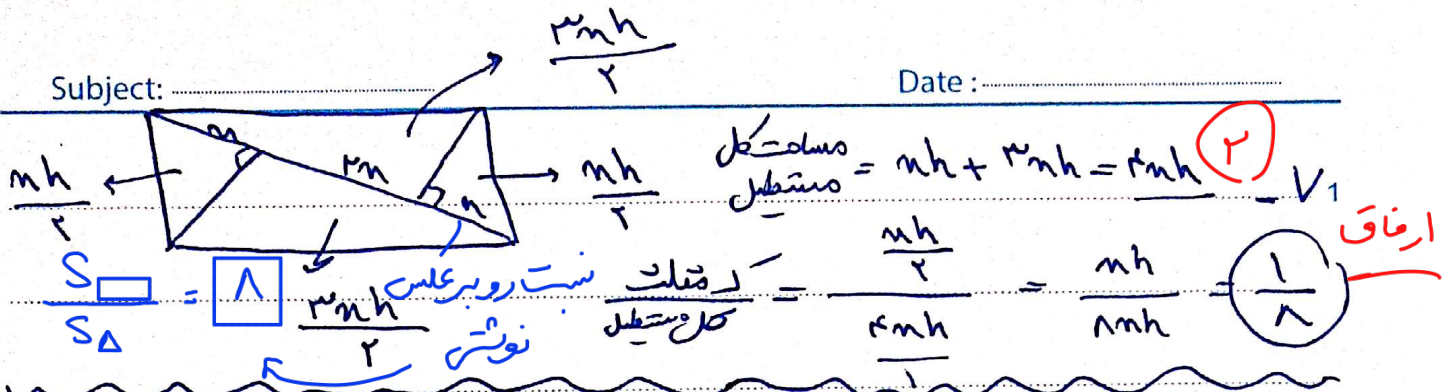
$$\frac{n+\omega, \omega}{n+11} = \frac{\omega, \omega}{n}$$

(2)

$$\text{Ex } r, \omega n = 14, \omega \rightarrow \boxed{n=4, 9} \checkmark$$

Subject: _____

Date: _____



از A به G وصل کنیم، AE ، GD ، AGC مثلثه:

محل برخورد میانه ها

$$GF = \frac{r}{r}n \rightarrow \frac{BD}{FD} = \frac{r}{\frac{1}{r}n} = 9$$

$$FD = \frac{1}{r}n$$