

$$\begin{aligned}
 & \hat{A}FE = \hat{B}FC, \hat{B}CF = \hat{F}AE \quad (\text{مترافق}) \implies \hat{A}FE \cong \hat{B}FC \quad \left\{ \begin{array}{l} \text{كـ AE} \\ \text{كـ BC} \end{array} \right. \\
 & BC = AE + ED \rightarrow BC = \text{مـ AE} \rightarrow \frac{BC}{AE} = \frac{\text{مـ AE}}{\text{مـ AE}} = 1 \quad \text{مـ AE} \\
 & AC = AD + CD \xrightarrow{AC \cong} \frac{\text{مـ CF}}{\text{مـ AE}} \cong \frac{\text{مـ AE}}{\text{مـ AE}} = 1 \rightarrow \text{مـ CF} = \text{مـ AE} \\
 & AF = CF, \frac{CF}{AF} = \frac{\text{مـ AE}}{\text{مـ AE}} = 1 \rightarrow AF = \frac{\text{مـ AE}}{\text{مـ AE}} = 1 \\
 & BE = EA + BA \xrightarrow{BE \cong} BE = \frac{\text{مـ AE}}{\text{مـ AE}} = 1 = BE + FE, \frac{BE}{FE} = \frac{\text{مـ AE}}{\text{مـ AE}} = 1 \rightarrow FE = \frac{\text{مـ AE}}{\text{مـ AE}} = 1 \\
 & EF = AF, \frac{EF}{AF} = \frac{\text{مـ AE}}{\text{مـ AE}} = 1 \rightarrow \frac{EF}{AF} = \frac{\text{مـ AE}}{\text{مـ AE}} = 1 \quad \text{مـ AE} \\
 & \text{مـ AE} = \frac{\text{مـ AE}}{\text{مـ AE}} = 1 \quad \text{مـ AE} \\
 & \text{مـ AE} = \frac{\text{مـ AE}}{\text{مـ AE}} = 1 \quad \text{مـ AE}
 \end{aligned}$$

$$E = C \wedge \hat{A}_2 \hat{A} \rightarrow A \stackrel{\Delta}{\sim} D \cong A \stackrel{\Delta}{\sim} C B \rightarrow \frac{r}{x+1} = \frac{x}{10} \rightarrow x^r + u - c = 0$$

$$(x+9)(x-9) = 0 \rightarrow x = 9 \text{ or } x = -9$$

$$\frac{AD}{AB} = \frac{AE}{AC} = \frac{DE}{BC}$$

$$\frac{x}{x+15y} = \frac{DE}{FC+C}, \frac{DE}{FC} = \frac{x}{y} \rightarrow \frac{FC+C}{DE} = \frac{x+15y}{x}, \frac{x+15y}{x} = \frac{ex}{x} \rightarrow eDE = FC+C, \\ \omega DE = PFC \rightarrow 9DE - 9 = \omega DE \rightarrow DE = \frac{9}{e} \rightarrow RC = \frac{10}{e} \rightarrow \text{R} \quad (1) \\ \rightarrow BC = \frac{10}{e} + C = \frac{10}{e} \quad \checkmark$$

A diagram of triangle ABC. Altitude BH is drawn from vertex B to the base AC, meeting it at point H. Angle ABD is labeled at vertex B.

$$AB^T = F \times T, \quad AC^T = 19 \times T, \quad \rightarrow \frac{AB^T}{AC^T} = \frac{F \times T}{19 \times T} =$$

$$\frac{AB}{AC} = \frac{\sqrt{\epsilon}}{\sqrt{14}} = \frac{r}{\epsilon} \left(\frac{1}{r} \right)^2 \checkmark$$

$$AB^r = BH \circ BC$$

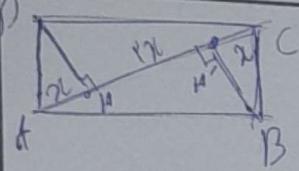
$$AC^r = CH \circ CB$$

$$\overset{\Delta}{\text{CEF}} \underset{\approx}{\sim} \overset{\Delta}{\text{ABF}}$$



$$\alpha \rightarrow \beta \rightarrow \gamma \rightarrow \frac{m}{4} = \frac{n}{n+1} \beta \rightarrow \gamma$$

$$\rightarrow n = 1 \quad AF_{n, n+1} = 15$$

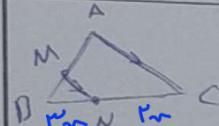


$\hat{A}H = h = BH$, $\hat{D}H = \alpha \rightarrow \hat{A}DH = 90 - \alpha \rightarrow$ R

$\rightarrow \hat{H}DC = \alpha, \hat{D}CH = 90 - \alpha \rightarrow \hat{A}DH = \hat{C}DH$ R

$$\frac{CH}{h} = \frac{h}{x} \rightarrow CH = xh \rightarrow \frac{h}{n} = \frac{h}{x} \rightarrow h = x\sqrt{c} \rightarrow AB = AH + BH$$

$$\rightarrow AB = \sqrt{c}x \rightarrow S_{\square} = \sqrt{c}x \times x, S_{\triangle} = \frac{\sqrt{c}x \times n}{2} \rightarrow \frac{S_{\square}}{S_{\triangle}} \checkmark$$



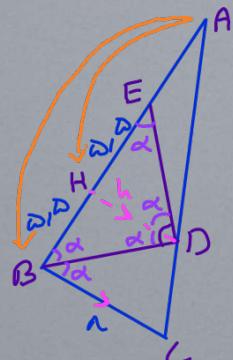
موجز AC $\hat{N}M$ R طور فرض R

$$BM = x, NC = BN$$

$$\frac{S_{BAC}}{S_{BMN}} = \frac{c}{1} = \frac{\sin A}{\sin B} \times \frac{AB \times CB}{x \times CN} \rightarrow AB \times CB = NC$$

$$\rightarrow BNM \cong BAC \rightarrow \frac{BN}{BM} = \frac{x}{c} = \frac{CB}{AB} \rightarrow AB = \sqrt{c}x, CB = \sqrt{c}x$$

$$\frac{BM}{AM} = \frac{x}{(\sqrt{c} - x)} = \frac{x}{\sqrt{c}} =$$



$$h' = \omega_1 \Delta \times \Delta_1 \Delta \rightarrow \boxed{h = \Delta_1 \Delta}$$

$$\omega_1 = \frac{n + \omega_1 \Delta}{11 + n} = \frac{\Delta_1 \Delta}{n} \rightarrow \boxed{n = \frac{\omega_1}{\Delta}}$$

$$19a^2 + 19b^2 = 5, a^2 + b^2 = 1 \rightarrow 19b = b + 19a \rightarrow 19b = 19a$$

$$\rightarrow 9a^2 + 9b^2 = 9 \rightarrow 9a^2 + 19a^2 = 9 \rightarrow 10a^2 = 9 \rightarrow$$

$$\rightarrow a = \frac{3}{\sqrt{10}}, b = \frac{1}{\sqrt{10}} \rightarrow 19b = \frac{19}{\sqrt{10}} = \text{مثلي}$$

$$S = \text{مثلي} = \frac{19}{\sqrt{10}} \times \frac{19}{\sqrt{10}} = \boxed{\frac{361}{10}}$$

محل برحدود سینه $G \rightarrow BG = m, GD = n \rightarrow BD = m + n$

$\therefore \text{مثلي} AGC \text{ مثلي} GD, AE \rightarrow \text{مثلي} G \approx A$

$$GF = \frac{1}{\sqrt{10}}n \rightarrow \frac{BD}{FD} = \frac{m}{\frac{1}{\sqrt{10}}n} = 9$$

$$FD = \frac{1}{\sqrt{10}}n$$

$$\frac{S_{ABC}}{S_{BMN}} = \frac{\cancel{f} AB \times BC \times \sin B}{\cancel{f} BM \times BN \times \sin B} = r \rightarrow \frac{AB}{BM} = \frac{r}{\Delta}$$

$$\frac{AB - BM}{BM} = \frac{r - \Delta}{\Delta} = \frac{f}{\Delta}$$

$$\frac{BM}{AM} = \boxed{\frac{\Delta}{f}}$$