

$x \rightarrow 2n$   
 $y \rightarrow 5n$

$\frac{2n}{2n+4n} = \frac{1}{3} = \frac{DE}{BC} \rightarrow 2+FC$

از طرف  $\triangle FHE$  و  $\triangle FHC$  به حالت زوز متشابه اند پس:

$\frac{DE}{FC} = \frac{2n}{5n} \Rightarrow \frac{1}{3} = \frac{2+t}{2+5t} \Rightarrow t = \frac{2}{3}$

$BC = 2 + 5\left(\frac{2}{3}\right) = 4\frac{2}{3}$  ✓

$\sqrt{4 \times 20} = 4\sqrt{5}$  ✓

$\sqrt{16 \times 20} = 8\sqrt{5}$  ✓

نسبت = 2

۱۷، ۷۵

۱- \* تو سوال نگفتی ولی احتمالاً شکل مربع و گره اولی و سطح پیرامین هست.

$\triangle AFE \sim \triangle BFC \rightarrow k = \frac{1}{3}$

نسبت مشابه

$\frac{1}{3} = \frac{EF}{DE} \Rightarrow EF = \frac{\sqrt{10}x}{3}$

$\frac{1}{3} = \frac{AF}{AC} \Rightarrow AF = \frac{2\sqrt{2}x}{3}$

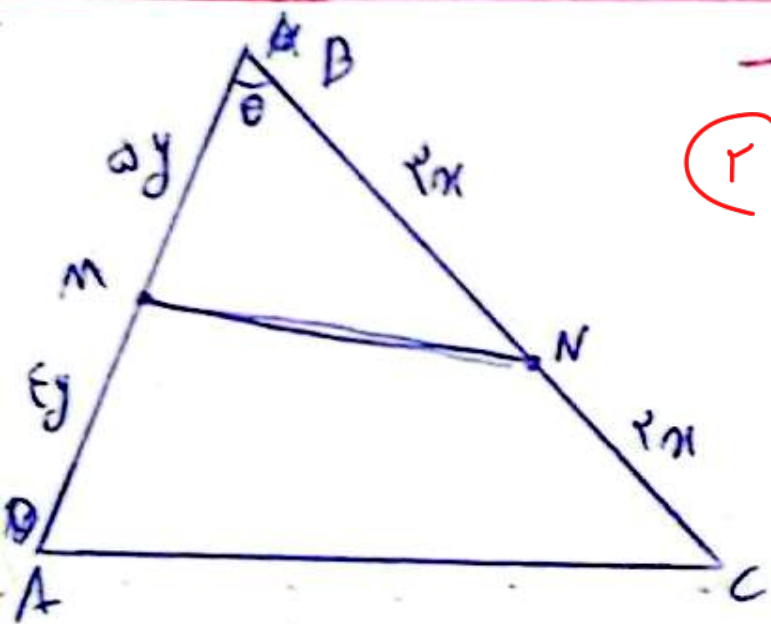
$\frac{EF}{AF} = \frac{\sqrt{10}}{2\sqrt{2}} = \frac{\sqrt{5}}{2}$  ✓

$\triangle AED \sim \triangle ABC$

از طریق زوز

$\frac{x}{15} = \frac{2}{x+1} \Rightarrow x^2 + x - 30 = 0 \Rightarrow x = 5$  ✓



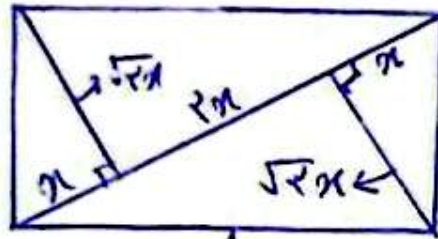


$$r = \frac{\frac{1}{2} \omega x \times AB \times \sin \theta}{\frac{1}{2} r \pi \times MB \times \sin \theta} \Rightarrow \frac{r}{\omega} = \frac{AB}{MB}$$

$$\frac{\omega y}{\epsilon y} = \frac{\omega}{\epsilon} = \sqrt{r \omega} \quad \checkmark$$

-1

(r)



$$\sqrt{x \times \epsilon x} = r \pi$$

$$\sqrt{r \pi \times \epsilon x} = r \sqrt{r} \pi$$

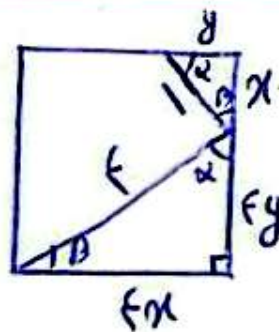
$$\hookrightarrow \text{diagonal} = \epsilon \sqrt{r} \pi$$

$$\hookrightarrow \text{side} = \frac{1}{\epsilon} \sqrt{r} \pi$$

$$\frac{\epsilon \sqrt{r} \pi}{\frac{1}{\epsilon} \sqrt{r} \pi} = 1 \quad \checkmark$$

-V

(r)



$$x^2 + y^2 = 1 = x^2 + x^2 \frac{r}{1} = 1$$

$$\epsilon y = r x \Rightarrow y = \frac{r}{\epsilon} x$$

$$\frac{r \omega}{1} x^2 = 1 \rightarrow x = \frac{\epsilon}{\omega}$$

$$\epsilon x = \frac{1}{\omega} \rightarrow (\epsilon x)^2 = \left( \frac{r}{r \omega} \right) \quad \checkmark$$

(r) -9

۵-۱.  $G$  محل بر خفورد مسانه ها  $\rightarrow BG = 2n \quad GD = n \rightarrow BD = 3n$

از  $A$  به  $G$  وصل کنیم،  $AE$ ،  $GD$  مسانه ها مثلث  $AGC$  مرتفعه:

$$\begin{aligned} GF &= \frac{2}{3}n \\ FD &= \frac{1}{3}n \end{aligned} \Rightarrow \frac{BD}{FD} = \frac{3n}{\frac{1}{3}n} = \boxed{9}$$