

$$AC \text{ متر: } 9x^2 + 9x^2 = 18x^2$$

$$BE \text{ متر: } x^2 + 9x^2 = 10x^2 \rightarrow \sqrt{10}x$$

$$\frac{EF}{AF} = \frac{\sqrt{10}x}{\sqrt{2}x} = \frac{\sqrt{10}}{\sqrt{2}} \checkmark$$

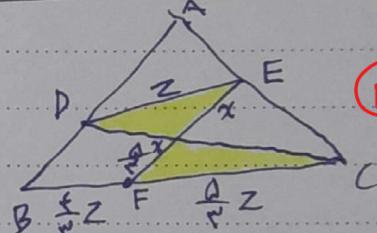
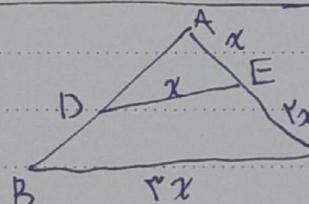
$$\frac{\text{مثلث } ADE}{\text{مثلث } ABC} = \frac{AD}{AB} = \frac{2}{x+1} = \frac{x}{14} \Rightarrow$$

$$x^2 + x = 10 \rightarrow x^2 + x - 10 = 0 \rightarrow (x+4)(x-1) = 0 \quad \text{معنی} \checkmark$$

حل معنی (عائمه عددي) با استدلال (جواب معنی) شورله

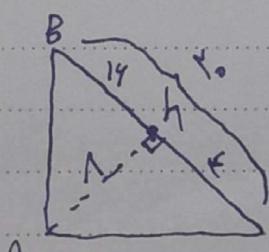
$$y = \frac{1}{2}x$$

$$1,2 \times 10 = 2$$



$$\frac{1}{2}z = 1 \rightarrow z = \frac{2}{1}$$

$$r^2 z = r^2 \times \frac{9}{4} = \frac{9r^2}{4} \rightarrow \frac{9}{4} \checkmark$$



$$Ah^2 = Bh \times hc$$

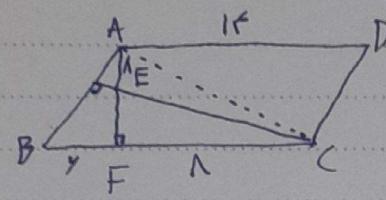
$$(Ah)^2 = f \times 14 \rightarrow Ah = \lambda$$

$$AC^2 = CH \times CB \rightarrow AC^2 = f \times 10 \rightarrow AC = \sqrt{10}$$

$$(AB)^2 = Bh \times BC \rightarrow AB^2 = 14 \times 10 \rightarrow AB = \sqrt{140}$$

$$\frac{AB}{AC} = \frac{\sqrt{140}}{\sqrt{10}} = \frac{2}{1} \checkmark$$

$$\frac{AC}{AB} = \frac{\sqrt{10}}{\sqrt{140}} = \frac{1}{2} \checkmark$$



ABC \rightarrow متن

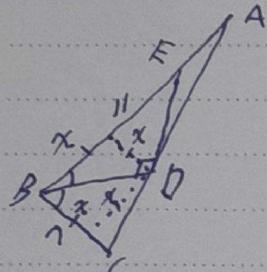
$$(AF)^2 = BF \times FC$$

$$(AF)^2 = l \times n \rightarrow AF = \sqrt{ln}$$

(R)

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لذلك $AD = BF + FC \rightarrow l = l + n \rightarrow FC = n$ ✓



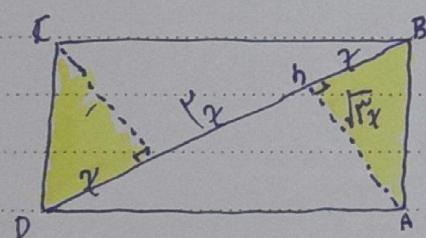
$$\frac{l + AE - x}{l + AE} = \frac{x}{n} \rightarrow l n + n(AE) = l x + (AE)x$$

لذلك y, y

(R) ✓

$$ln + n - x(AE) = l x \rightarrow ln + \frac{n}{l}(AE) = \frac{lx}{l}$$

$$x' = x(l - x) \rightarrow \sqrt{l(l - x)} = x \rightarrow x' = lx - x^2 \rightarrow lx^2 = lx \rightarrow x = \frac{l}{x}$$



$$(Ah)^2 = Bh \times h D$$

$$(Ah)^2 = x \times l x \rightarrow \sqrt{lx}$$

$$S_{ABD} = \frac{\sqrt{lx} \times lx}{2} = \frac{\sqrt{lx} \times x^2}{2} \rightarrow \frac{\sqrt{lx} \times x^2}{2}$$

(R)

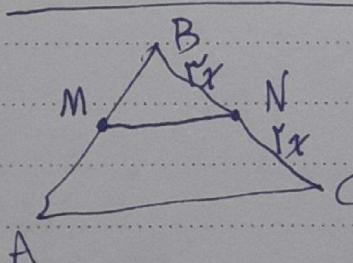
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لذلك $AhB = \frac{\sqrt{lx} \times x}{2} = \frac{\sqrt{lx} x^2}{2}$

$$\frac{\sqrt{lx} x^2}{2} = A \rightarrow$$

ماحت

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$$\frac{S_{ABC}}{S_{BMN}} = \frac{l}{n}$$

(R)

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ماحت: نسب اضلاع مربوب

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$$\frac{BN}{BC} = \frac{1}{3}$$

$$\frac{BC}{BN} \times \frac{BA}{BM} = \frac{3}{1} \rightarrow \frac{3}{1} \times \frac{BA}{BM} = 3 \rightarrow \frac{BA}{BM} = \frac{3}{1}$$

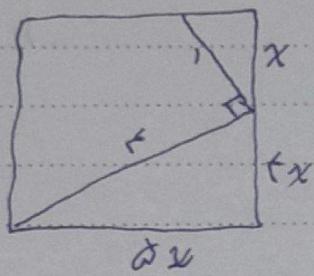
$$(BM \rightarrow 3x) \Rightarrow BA \rightarrow 9x \Rightarrow (AM \rightarrow 2x)$$

$$\frac{BM}{AM} = \frac{3x}{2x} = \frac{3}{2}$$

✓

$$\frac{1}{2} \times \frac{3}{2}$$

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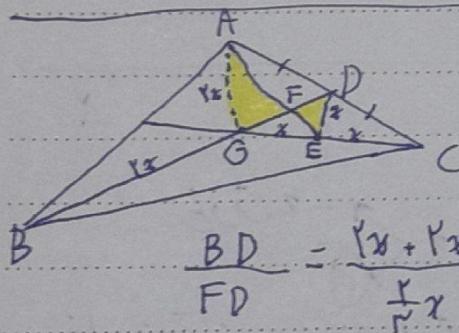


$$(fx)^2 + (dx)^2 = 19 \quad \therefore r^2 = 19$$

$$19x^2 + 19dx^2 = 19 \Rightarrow f1x^2 = 19$$

$$x^2 = \frac{19}{f1} \rightarrow x = \frac{1}{\sqrt{f1}}$$

$$dx \Rightarrow \frac{r_0}{\sqrt{f1}} \times \frac{r_0}{\sqrt{f1}} = \frac{r_0^2}{f1}$$

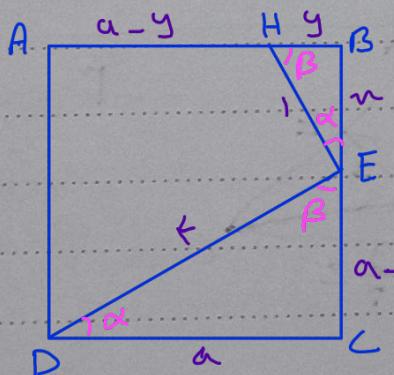


$$\frac{DE}{AG} = \frac{x}{rx} = \frac{1}{r}$$

$$\frac{GF}{FD} = \frac{1}{r} \quad \text{✓}$$

$$GF + FD = fx$$

$$\frac{1}{r}x + \frac{1}{r}x$$



$$\triangle EBH \sim \triangle DCE \rightarrow \frac{y}{a-n} = \frac{n}{a} = \frac{1}{r} \quad \left\{ \begin{array}{l} a = f1n \\ a - n = f1y \end{array} \right.$$

$$n = \frac{r}{r+1}y$$

$$\triangle DCE \xrightarrow{\text{congruence}} (f1)^2 = (a-n)^2 + (a)^2 \quad \left\{ \begin{array}{l} n = \frac{r}{r+1}a \\ a = \frac{14}{r} \end{array} \right.$$

$$S_{\square} = a^2 = \frac{r^2y^2}{r^2+1}$$

$$\text{محل برخورد } G \rightarrow BG = r_n \quad GD = n - BD = r_n$$

: $\triangle AGC \sim \triangle GDC$, $AE \perp DC$, $\angle G \sim A$;

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

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