ایناز ابراهیم‌زاده - تطبیق ۲۱ - یازدهم ریاضی B

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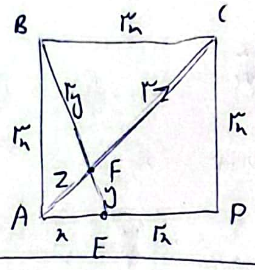

$\sqrt{(3x)^2+x^2}=x\sqrt{10}=BE=4y \to y=\frac{x\sqrt{10}}{4}$

$AEF, BCF \to \frac{FE}{FB}=\frac{AF}{FC}=\frac{AE}{BC} \to \frac{y}{z}=\frac{\frac{x\sqrt{10}}{4}}{\frac{3x\sqrt{2}}{4}}=\boxed{\frac{\sqrt{5}}{3}}$

$\sqrt{2(3x)^2}=3x\sqrt{2}=4z \to z=\frac{3x\sqrt{2}}{4}$

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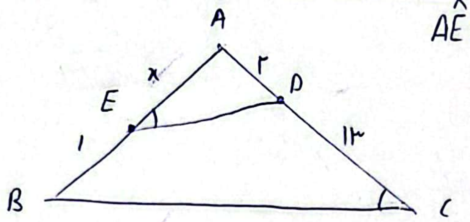

$\hat{AED}=\hat{ACB} \to \hat{A}=\hat{A},\ \hat{AED}=\hat{ACB} \to \hat{ADE}=\hat{ABC} \Rightarrow$ مشابه $\hat{ADE}, \hat{ABC}$

$\frac{2}{x+1}=\frac{x}{15} \to 30=x^2+x \to x^2+x-30 \to (x+6)(x-5)=0 \to \boxed{x=5}$

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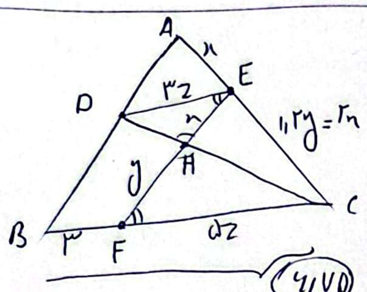

$DE \parallel BC \quad 3y=5x \quad BF=3 \to y=\frac{5}{3}x$

$\overset{\triangle}{AED}, \overset{\triangle}{ABC} \to \frac{x}{x+1.2y}=\frac{DE}{BC}=\frac{1}{3}$

$\overset{\triangle}{DEH}, \overset{\triangle}{FCH} \to \frac{x}{y}=\frac{DE}{BF}=\frac{3}{5}$

$\to \frac{x}{x+1.2y}=\frac{x}{y+3} \to x+2x=\frac{5}{3}x+3$

$\to 3x=\frac{5}{3}x+3 \to \frac{4}{3}x=3 \quad x=\frac{9}{4}$

$5z+3=9z \to z=\frac{3}{4} \to 9z=\boxed{6.75}$

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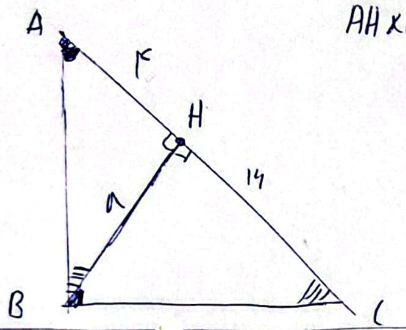

$AH \times CH = BA^2 - 4\times16=8^2$

$\frac{BC}{AB}=\frac{HC}{HB}=\frac{16}{8}=\boxed{2}$

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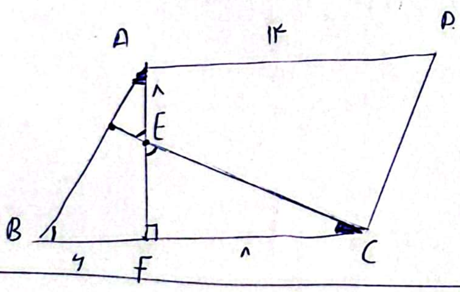

$\overset{\triangle}{AFB}, \overset{\triangle}{EFC} \to \frac{FC}{AF}=\frac{EF}{BF} \to \frac{8}{FE+8}=\frac{FE}{6}$

$\to 48=FE^2+8FE \to FE^2+8FE-48$

$(FE+12)(FE-4) \to FE=4$

$FE+AE=\boxed{AF=12}$

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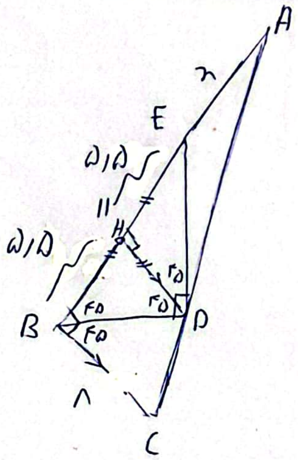

$\frac{EH}{BH}=1 \to EH=BH=\frac{11}{2}=5.5$

$\frac{x+5.5}{x+11}=\frac{5.5}{8}$

$\to 8x+44=5.5x+60.5$

$\to 16.5=2.5x \to \boxed{x=6.6}$

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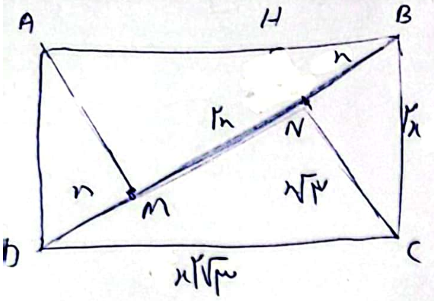


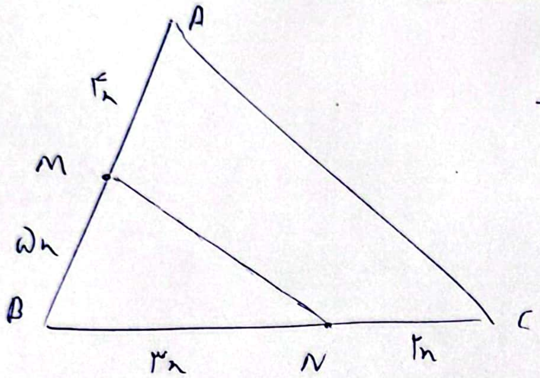
-7

$NBC\ ,\ DBC \to \frac{BC}{DB} = \frac{NB}{BC} \to (BC)^2 = 12x^2 \to BC = 1x$

$16\ x^2 = 12x^2 + x^2 \to DC = x\sqrt{3}$

$\to \frac{\frac{\sqrt{3}x \times x}{2}}{4x^2\sqrt{3}} = \frac{x^2\frac{\sqrt{3}}{2}}{4\sqrt{3}x^2} = \frac{1}{8}$

$\to$ مستطیل / مثلث $= 8$



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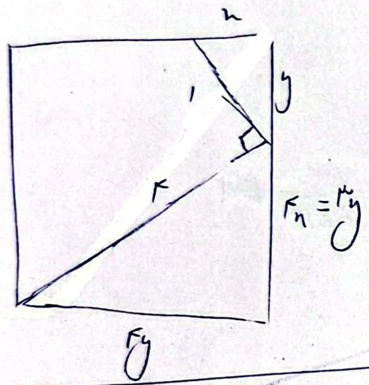
$\frac{BN \times BM \times \frac{1}{2} \times \sin B}{BC \times AB \times \frac{1}{2} \times \sin B} \to \frac{BM \times 3x}{5x \times AB} = \frac{1}{3} \to \frac{BM}{AB} = \frac{5}{9}$

$\frac{BM}{AM} = \frac{5}{4}$

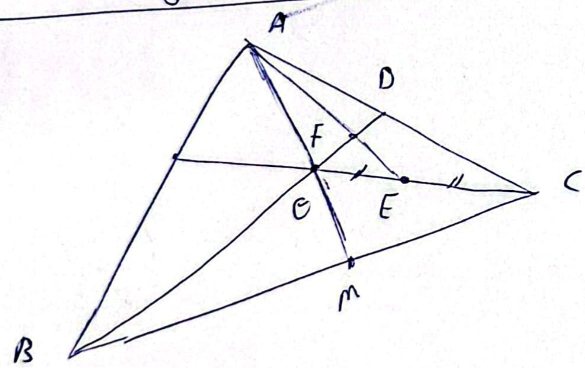


$4y = 4x + y \to 3y = 4x$

$\sqrt{9y^2 + 16y^2} = 5y = 4 \to y = \frac{4}{5}$

$4x = 3y$

$\left(4 \times \frac{4}{5}\right)^2 = \frac{256}{25}$



$AG = 2GM = \frac{2}{3}AM$

$BD = 3GD$

$FD = \frac{1}{3}GD \implies FD = \frac{1}{3} \times \left(\frac{1}{3}BD\right) \to \frac{BD}{FD} = 9$