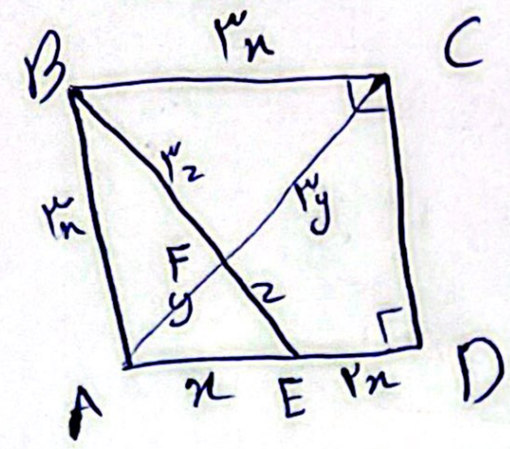
نام و نام خانوادگی ..آرمیتا میرزایی..... پاسخنامه تشریحی تکلیف شماره ....۲۱.... کلاس ..یازدهم ریاضی B.....



$AC = 3\sqrt{2}x \rightarrow y = \frac{3\sqrt{2}}{4}x$

$BC \parallel AE \Rightarrow \triangle BFC \sim \triangle AFE$

طبق: $\frac{FE}{BF} = \frac{AE}{BC} = \frac{AF}{FC} = \frac{1}{3}$

$BE = \sqrt{9x^2+x^2} = \sqrt{10}x$

$4z = \sqrt{10}x \rightarrow z = \frac{\sqrt{10}}{4}z$

$\frac{EF}{AF} = \frac{z}{y} = \frac{\frac{\sqrt{10}}{4}x}{\frac{3\sqrt{2}}{4}x} = \frac{\sqrt{5}}{3}$

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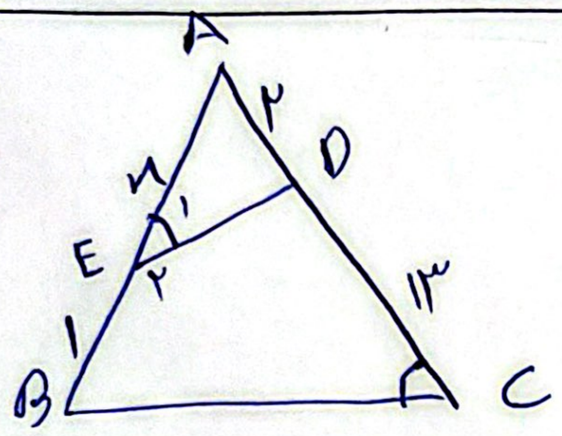

$\hat{A} = \hat{A}$, $\hat{E}_1 = \hat{C}$ $\xrightarrow{\text{زاویه}}$ $\triangle AED \sim \triangle ABC$

طبق: $\frac{۲}{x+1} = \frac{x}{15}$

$x^2+x-30 = 0$

$(x+6)(x-5) = 0$

$x = 5$ ق ق ق

$x = -6$ ق ق غ

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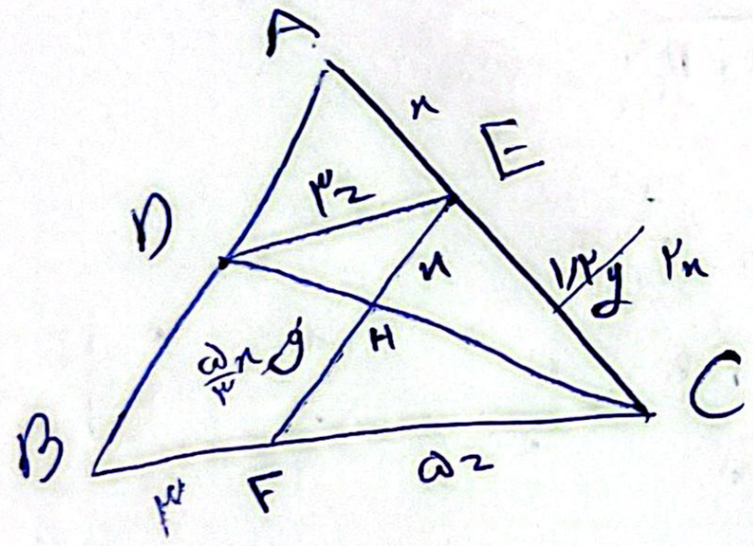
$y = 5x$



$DE \parallel BC \xrightarrow{\text{تالس}} \frac{x}{3x} = \frac{3}{5z+3} \rightarrow 9z = 5z+3$

$z = \frac{3}{4}$

$BC = 3 + \frac{15}{4} = \frac{27}{4} = 6.75$

$DE \parallel BC \rightarrow \triangle DHE \sim \triangle HFC$

طبق: $\frac{DE}{FC} = \frac{x}{\frac{5}{3}x} = \frac{3}{5}$

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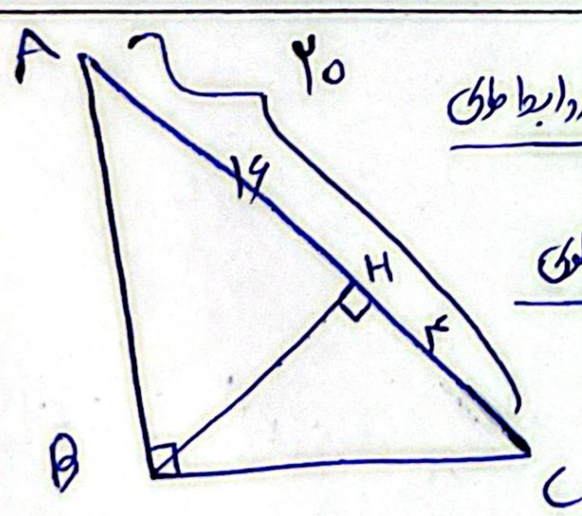

روابط طولی $\rightarrow BC^2 = 4 \times 20 \rightarrow BC = 4\sqrt{5}$

روابط طولی $\rightarrow AB^2 = 16 \times 20 \rightarrow AB = 8\sqrt{5}$

$\frac{AB}{BC} = 2$

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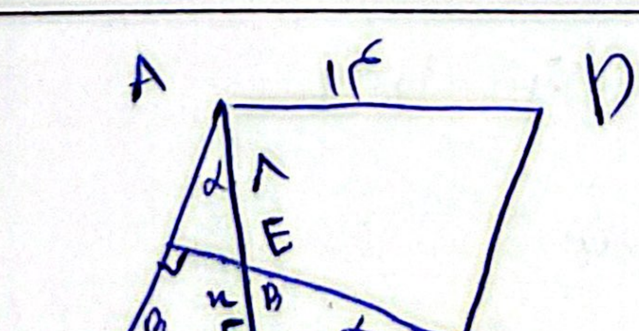

$\tan\alpha = \frac{x}{8} = \frac{4}{8+x}$

$x^2+8x-48 = 0$

$(x+12)(x-4) = 0$

$x = -12$ ق ق غ

$x = 4$ ق ق

$AF = 8+4 = 12$

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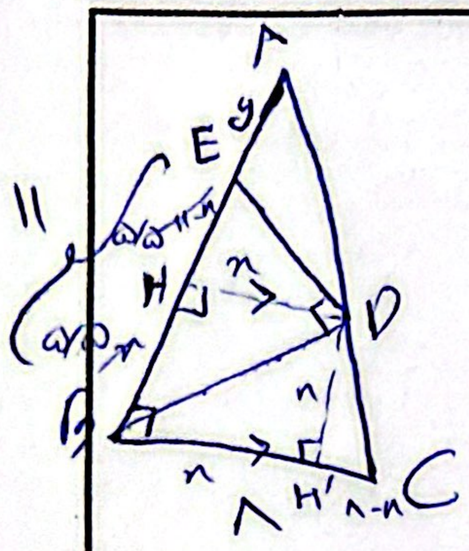

$HD \parallel BC$ تشابه $\rightarrow$ $\frac{y+\omega/\omega}{11+y} = \frac{\omega/\omega}{\lambda}$

$\lambda y + \epsilon\epsilon = 9\cdot/\omega + \omega/\omega y$

$\lambda/\omega y = 1\gamma/\omega$

$y = 9/\gamma$

$HD, DH' = \lambda$ نقاط $\rightarrow$

روابط طولی $\rightarrow$ $x^2 = x(11-x)$

$\downarrow$

$\gamma x^2 - 11x = 0$

$\downarrow$

$\gamma x(x - \omega/\omega) = 0$

$\downarrow$

$x = 0$ ق.ق.غ

$x = \omega/\omega$ ق.ق ✓

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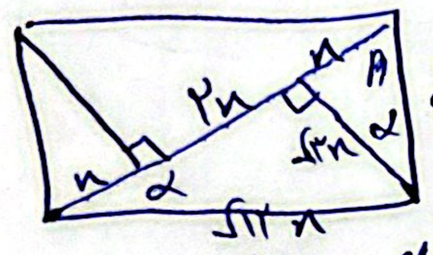

$y = 2x$

$\frac{S_{\square}}{S_{\triangle min}} = \frac{\sqrt{11}x \times 2x}{\frac{x \times \sqrt{3}x}{2}} = \boxed{\Lambda}$

$\sin\alpha = \frac{y}{4x} = \frac{x}{y} \rightarrow y = 2x$

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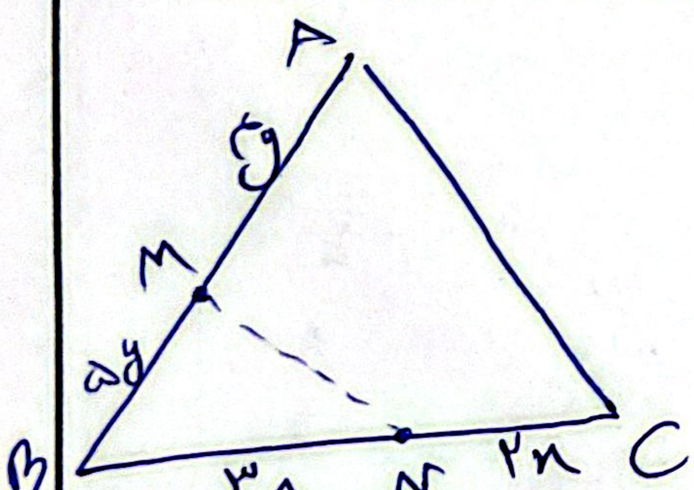

$\frac{S_{A\hat{M}C}}{S_{B\hat{M}N}} = \frac{\frac{1}{2}\sin B \times AB \times BC}{\frac{1}{2}\sin m \times BM \times BN} = 4$

$\frac{AB}{BM} = \frac{9}{3}$

$\frac{AB - BM}{BM} = \frac{6}{3} \rightarrow \frac{BM}{AM} = \frac{3}{6}$

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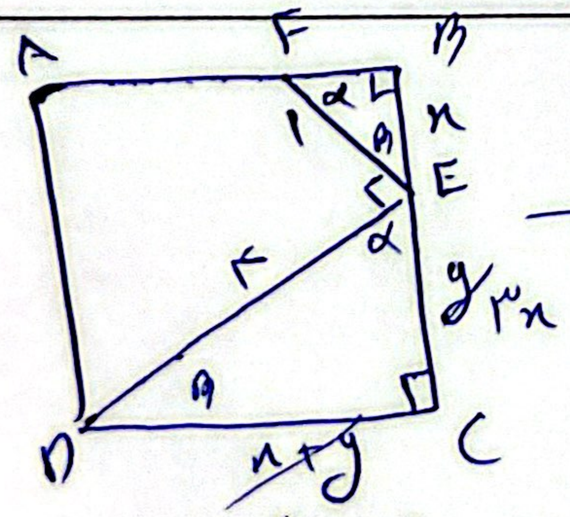

$\alpha = \alpha$, $A = B$ $\rightarrow$ $FBE \sim DEC$

تالس: $\frac{6}{1} = \frac{x+y}{x}$

$6x = x + y \rightarrow 3x = y$

DEC: $3x = 6$

$\angle x = 30^\circ$ $\rightarrow$ مثلث $\rightarrow$ $6x = 3\sqrt{3}$ $\rightarrow$ $S_D = (3\sqrt{3})^2 = 10/36$

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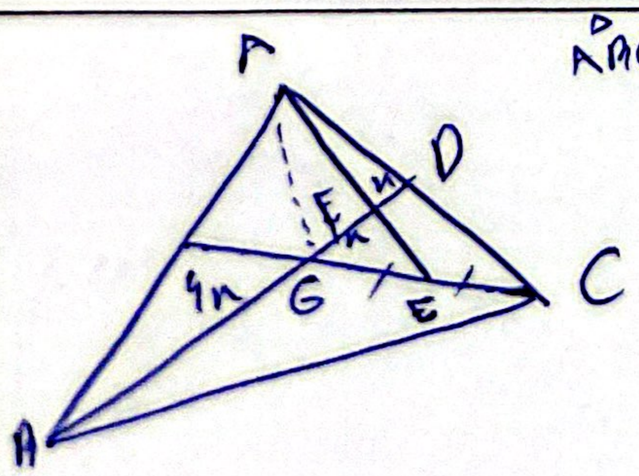

$\hat{ABC}$ $\rightarrow$ مثلث، G مرکز ثقل

AE, FD $\rightarrow$ میانه $\hat{AGC}$ $\rightarrow$ F مرکز ثقل $\rightarrow$ $FD = x$ $GF = 2x$

$\hat{ABC}$ G مرکز ثقل $\rightarrow$ $GD = 3x$ $BG = 9x$

$\frac{BD}{FD} = \frac{9x}{x} = 9$

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