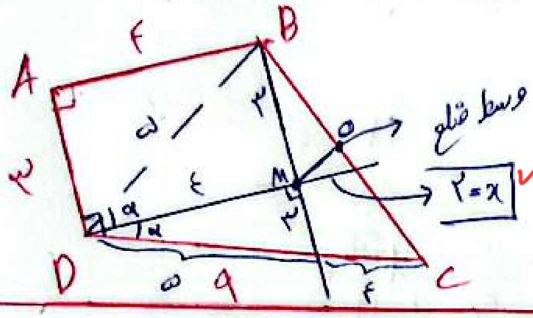
اسما رضوانی راد ۱۱ پسر B

۲۰

۱- (۲)

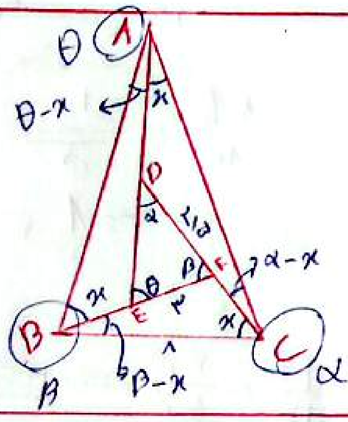
$h_{B\hat{D}E} = h_{B\hat{E}C} \Rightarrow \frac{S_2}{S_1} = \left(\frac{BC}{DE}\right) = \left(\frac{7+5}{5}\right) = \frac{12}{5}$

۲- (۲)



$2 = x$ ✓ $\frac{x}{4} = \frac{BO}{BC} = \frac{1}{2}$

۳- (۲)



با توجه به زوز $A\hat{B}C \sim E\hat{D}F$

$\frac{2/5}{3} = \frac{8}{AB} \Rightarrow AB = \frac{48}{5}$ ✓

۴- (۲)

$M\hat{B}C \sim A\hat{F}M \Rightarrow \frac{6}{2} = \frac{3}{AF} \to 1/5 \Rightarrow 9 + \frac{9}{4} = FM^2$

$CM = \sqrt{36+9} = 3\sqrt{5}$ $\quad FM = \frac{3\sqrt{5}}{2}$

$\frac{CE}{EM} = \frac{2}{1} \Rightarrow CE = 2\sqrt{5}$, $EM = \sqrt{5}$

$S = \sqrt{5} \times \frac{3\sqrt{5}}{2} \times \frac{1}{2} = \frac{15}{4}$ ✓

۶- (۲)

$EF^2 = DF \times FC$

$16 = 1 \times 16 \Rightarrow FC = 16$

$BC^2 = FC \times AC = 16 \times (16+4) = 320 \Rightarrow BC = 8\sqrt{5}$ ✓

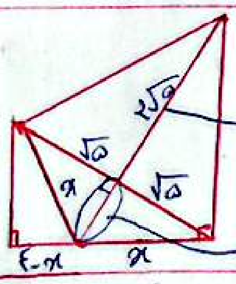
۵- (۲)

$A\hat{C}E \sim A\hat{E}D$

$\frac{\sqrt{121+x^2}}{10} = \frac{10+x}{\sqrt{121+x^2}} \Rightarrow 100 + 10x = 121 + x^2$

$\Rightarrow x^2 - 10x + 21 = 0 \quad \{3, 7$ ✓

۸- (۲)



$x^2 = 4 + x^2 + 16 - 8x \Rightarrow x = 2/5$

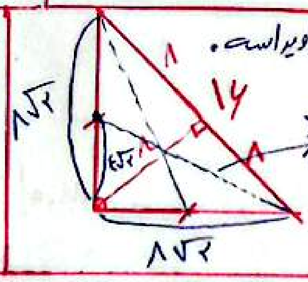
$(AE + \frac{\sqrt{5}}{2})\frac{\sqrt{5}}{2} = \frac{25}{4} \quad 2\sqrt{5} = AE$

$S = \frac{1}{2}\sqrt{5} \times 2\sqrt{5} = 5$ ✓

$5 + O^2 = 6/25 \Rightarrow O^2 = \frac{5}{4} \Rightarrow O = \frac{\sqrt{5}}{2}$

۷- (۲)

طبق اطلاعات سوال، قائم الزاویه است.



$\sqrt{32 + 128} = \sqrt{160} = 4\sqrt{10}$ ✓

۱۰- (۲)

$144 = HC \times 20 \to HC = 7/2 \Rightarrow AE = 6/4 = EH$

$\frac{DE}{12} = \frac{6/4}{20} \Rightarrow DE = \frac{6/4 \times 12}{20} = \frac{19/2}{5} = 3/84$ ✓

۹- (۲)

$BA = 3\sqrt{10}$ و $AD = 9$

$0/9\sqrt{10} = \frac{9}{\sqrt{10}}$

$\frac{BD}{BA} = \frac{BE}{3\sqrt{10}} = \frac{2/7\sqrt{10}}{\sqrt{10}} \to BE = 8/1$ ✓