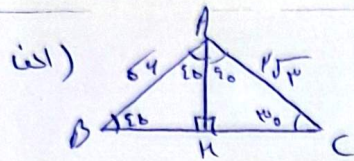


$$\text{الف) } \left(\frac{\sqrt{5}}{2} - \frac{\sqrt{5}}{2}\right) \left(\frac{\sqrt{5}}{2} - \frac{\sqrt{5}}{2}\right) = \left(\frac{\sqrt{5}}{2}\right)^2 - \left(\frac{\sqrt{5}}{2}\right)^2 = \frac{5}{4} - \frac{5}{4} = 0$$

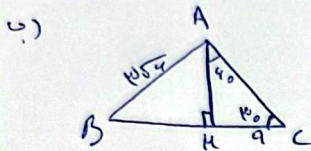
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$$\text{ب) } \frac{1 + 10 \left(\frac{1}{\sqrt{5}}\right)^2}{\left(\frac{\sqrt{5}}{2}\right)^2 + 1 \left(-\frac{\sqrt{5}}{2}\right)^2} = \frac{1 + 10 \cdot \frac{1}{5}}{\frac{5}{4} + \frac{5}{4}} = \frac{1 + 2}{\frac{10}{4}} = \frac{3}{\frac{5}{2}} = \frac{6}{5}$$



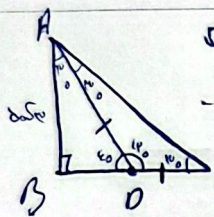
$$AH = \frac{\sqrt{5}}{2} \times 4 = \frac{4\sqrt{5}}{2} = 2\sqrt{5} \Rightarrow AH = \frac{1}{2} AC \Rightarrow C = 45^\circ$$

$$HC = \frac{\sqrt{5}}{2} \times 4 = 2\sqrt{5}$$



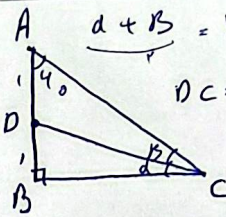
$$\frac{\sqrt{5}}{2} \times AC = 4 \Rightarrow AC = \frac{8}{\sqrt{5}} \Rightarrow AH = \frac{1}{2} \times \frac{8}{\sqrt{5}} = \frac{4}{\sqrt{5}} \Rightarrow \sin B = \frac{4}{5} \Rightarrow B = 53.13^\circ$$

$$\sin B = \frac{4}{5} \Rightarrow B = 53.13^\circ$$



$$\frac{\sqrt{5}}{2} \times AD = 4 \Rightarrow AD = \frac{8}{\sqrt{5}} \Rightarrow AD = 1.6$$

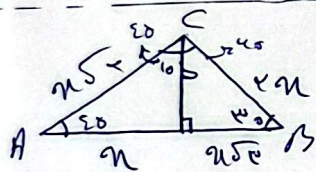
AD = AC



$$d + B = \frac{1}{2} \times AC \Rightarrow AC = 2 \Rightarrow BC = \frac{\sqrt{5}}{2} \times 2 = \sqrt{5}$$

$$DC = \sqrt{1 + (4\sqrt{5})^2} = \sqrt{1 + 80} = \sqrt{81} = 9 \Rightarrow \sin A = \frac{4\sqrt{5}}{9}$$

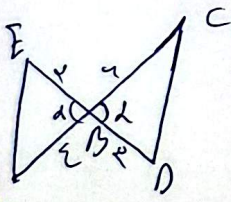
$$\sin A = \frac{4\sqrt{5}}{9}$$



$$\sin 45^\circ = \frac{\sqrt{5}}{2} \Rightarrow \frac{1}{\sqrt{2}} = \frac{\sqrt{5}}{2} \Rightarrow AC = \sqrt{5} \times \sqrt{2} = \sqrt{10} \Rightarrow AH = \frac{\sqrt{5}}{2} \times \sqrt{10} = \frac{\sqrt{50}}{2}$$

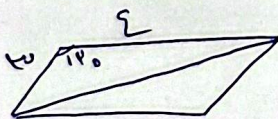
$$\angle C = 108 - 45 = 63^\circ \Rightarrow B = 27^\circ \Rightarrow \frac{1}{2} \times BC \Rightarrow BC = 2 \times \frac{1}{2} = 1$$

$$AB = \frac{\sqrt{5}}{2} \times 1 = \frac{\sqrt{5}}{2} \Rightarrow \frac{AB}{AC} = \frac{\frac{\sqrt{5}}{2}}{\sqrt{10}} = \frac{\sqrt{5}}{2\sqrt{10}} = \frac{\sqrt{5}}{2\sqrt{10}} = \frac{\sqrt{5}}{2\sqrt{10}}$$



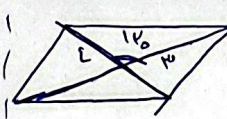
$B_1 = B_2 \Rightarrow$ متقابلين

$$\frac{S_{ABE}}{S_{DBC}} = \frac{\frac{1}{2} \times \sin \angle ABE \times d \times d}{\frac{1}{2} \times \sin \angle ABC \times d \times d} = \frac{1}{1}$$

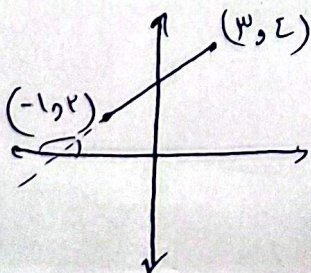


$$S = \frac{1}{2} \times 4 \times 5 \times \sin 45^\circ = 5\sqrt{2}$$

$$\sin 45^\circ = \frac{\sqrt{2}}{2}$$

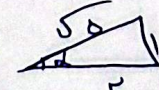


$$S = \frac{1}{2} \times 4 \times 5 \times \sin 45^\circ = 5\sqrt{2}$$



$$y = ax + b \quad a = \tan \alpha \rightarrow a = \frac{\Delta y}{\Delta x} \rightarrow a = \frac{2 - 0}{0 - 1} = -2$$

$$\tan \alpha = -2 \rightarrow$$



$$\cos \alpha = \frac{1}{\sqrt{5}} \rightarrow$$

$$\cos \alpha = -\frac{2}{\sqrt{5}} \rightarrow$$

$$\cos \theta > 0 \leftarrow \text{دائرة} \leftarrow \text{نصف دائرة}$$

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