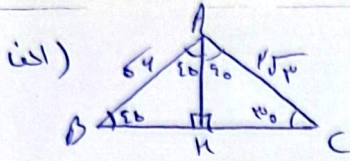


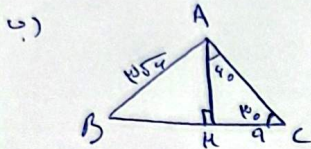
الف) $(\frac{\sqrt{5}}{2} - \frac{\sqrt{5}}{2})(\frac{\sqrt{5}}{2} - \frac{\sqrt{5}}{2}) = (\frac{\sqrt{5}}{2})^2 - (\frac{\sqrt{5}}{2})^2 = \frac{5}{4} - \frac{5}{4} = -\frac{1}{2}$

ب) $\frac{1 + 10(\frac{1}{\sqrt{5}})^2}{5(\frac{\sqrt{5}}{2})^2 + 4(-\frac{\sqrt{5}}{2})^2} = \frac{1 + 10 \cdot \frac{1}{5}}{5 \cdot \frac{5}{4} + 4 \cdot \frac{5}{4}} = \frac{1+2}{\frac{25}{4} + \frac{20}{4}} = \frac{3}{\frac{45}{4}} = \frac{4}{15}$



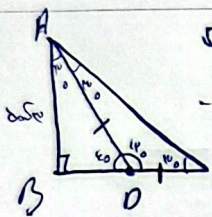
$AH = \frac{\sqrt{5}}{2} \times \sqrt{4} = \frac{\sqrt{5}}{2} \times 2 = \sqrt{5}$ } $AH = \frac{1}{2} AC \Rightarrow C = 90^\circ$ }

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



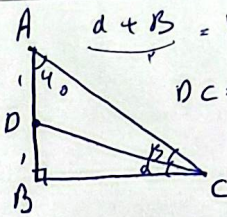
$\frac{\sqrt{5}}{2} \times AC = 9 \Rightarrow AC = 4\sqrt{5}$ } $AH = \frac{1}{2} \times 4\sqrt{5} = 2\sqrt{5}$ } $\sin B \times 10\sqrt{4} = 2\sqrt{5}$

$\sin B = \frac{\sqrt{5}}{2} \rightarrow \begin{cases} B = 90^\circ \\ B = 135^\circ \end{cases}$



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

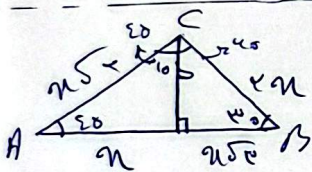
AD = AC
مساوية الضلعين
في المثلثين



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

$DC = \sqrt{1 + (2\sqrt{5})^2} = \sqrt{21} \Rightarrow \sin A \times \sqrt{10} = 1$

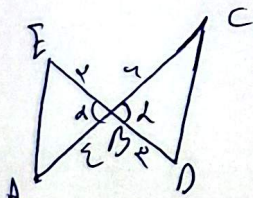
$\sin A = \frac{\sqrt{10}}{10}$



$\sin 90^\circ = \frac{\sqrt{5}}{2} \Rightarrow 1 = \frac{\sqrt{5}}{2} \times AC \Rightarrow AC = 2\sqrt{5}$ } $AH = \frac{\sqrt{5}}{2} \times 2\sqrt{5} = 5$

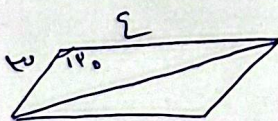
$\angle C = 100^\circ - 90^\circ = 10^\circ \Rightarrow B = 80^\circ \Rightarrow 10 = \frac{1}{2} \times BC \Rightarrow BC = 20$

$AB = \frac{\sqrt{5}}{2} \times 20 = 10\sqrt{5}$ } $\frac{AB}{AC} = \frac{10\sqrt{5}}{2\sqrt{5}} = \frac{10}{2} = 5$



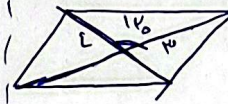
$B_1 = B_2 \Rightarrow$ متقابلين

$\frac{S_{ABE}}{S_{DBC}} = \frac{\frac{1}{2} \times AB \times BE \times \sin \angle ABE}{\frac{1}{2} \times DC \times BE \times \sin \angle DBC} = \frac{1}{1}$

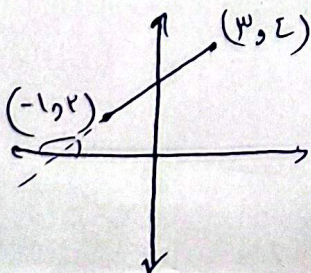


$S = 10 \times 10 \times \sin 120^\circ = 50\sqrt{3}$

$\sin 120^\circ = \frac{\sqrt{3}}{2}$



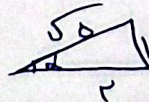
$S = \frac{1}{2} \times 10 \times 10 \times \sin 120^\circ = 50\sqrt{3}$



$y = ax + b$

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

$\tan \alpha = 2 \rightarrow$



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

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

