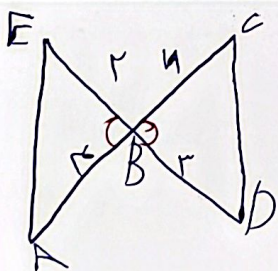
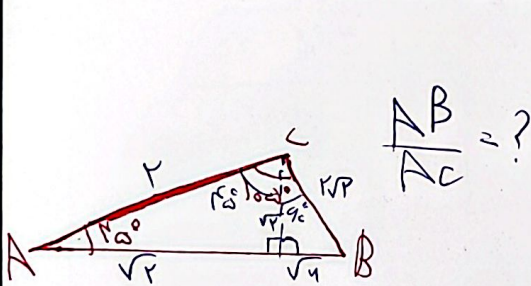
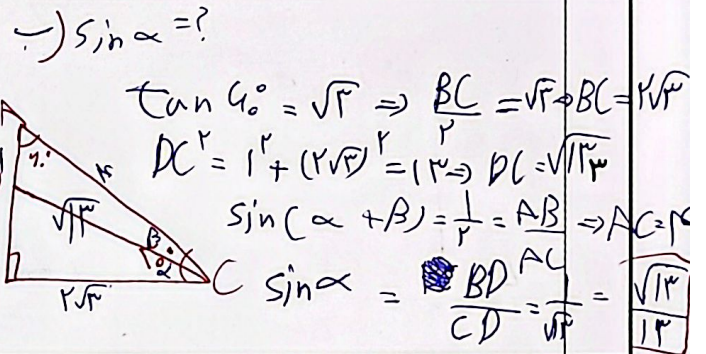
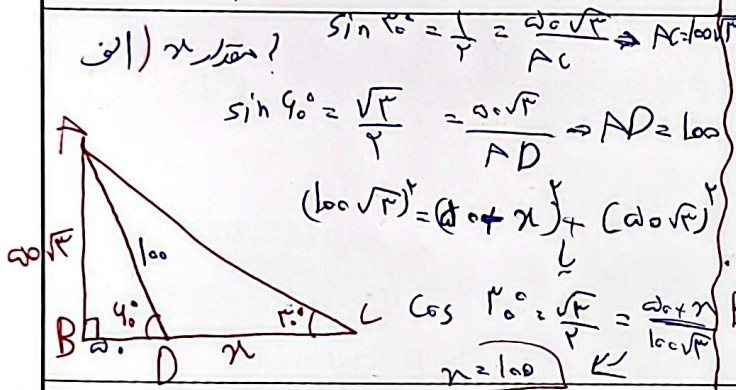
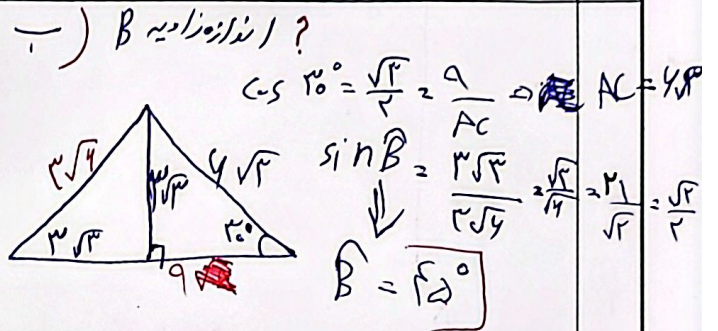
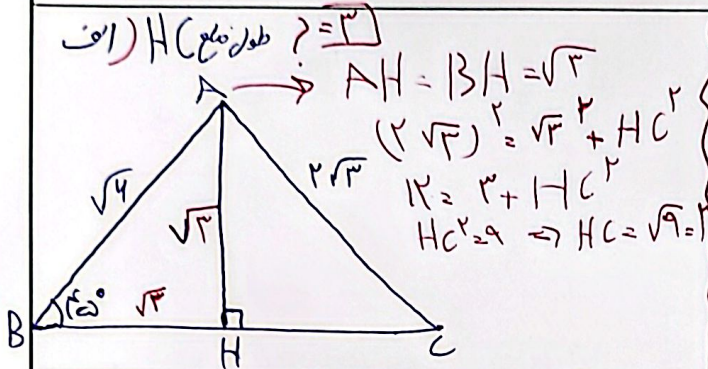


نام و نام خانوادگی کلاس شماره تکلیف شماره پاسخنانه تشریحی

(الف) $(\sin 125^\circ + \sin 35^\circ)(\cos 125^\circ - \cos 35^\circ) = (\frac{\sqrt{2}}{2} + \frac{1}{2} - \frac{\sqrt{2}}{2})(\frac{\sqrt{2}}{2} - \frac{1}{2})$
 $\frac{\sqrt{2}-\sqrt{2}}{2} \times \frac{\sqrt{2}+\sqrt{2}}{2} = \frac{2-2}{2} = -\frac{1}{2}$

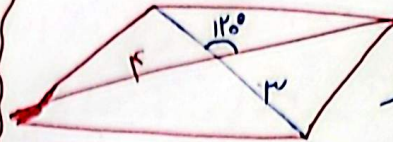
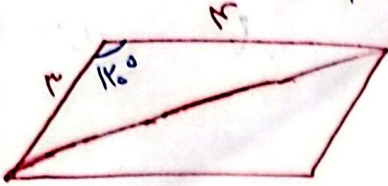
(ب) $\frac{1 + 2 \tan^2 22.5^\circ}{2 \cos 22.5^\circ + 2 \cos 22.5^\circ} = \frac{1+1}{2+2} = \frac{2}{4} = \frac{1}{2}$



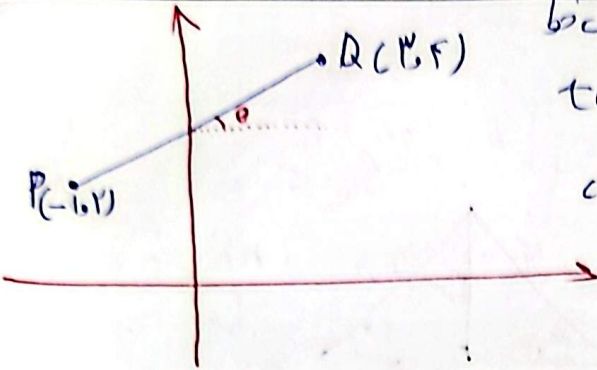
$\frac{S_{\triangle ABE}}{S_{\triangle BCD}} = \frac{\frac{1}{2} \times 2 \times 4 \times \sin 60^\circ}{\frac{1}{2} \times 2 \times 2 \times \sin 60^\circ} = \frac{4}{2} = 2$

الف) $S = \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \sin 110^\circ =$

$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \frac{\sqrt{3}}{2} = \frac{\sqrt{3}}{8}$

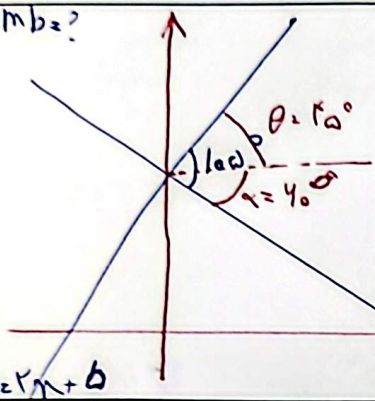


$S = \frac{1}{2} ab \sin \alpha \Rightarrow \frac{1}{2} \times \frac{1}{2} \times \frac{\sqrt{3}}{2} = \frac{\sqrt{3}}{8}$
(مساحة المثلث)



ب) $\frac{y_2 - y_1}{x_2 - x_1} = \frac{1 - 2}{2 - (-1)} = \frac{-1}{3} = -\frac{1}{3}$
 $\tan \theta = -\frac{1}{3}$

$\cos \theta = \frac{1}{\sqrt{\tan^2 \theta + 1}} = \frac{1}{\sqrt{\frac{1}{9} + 1}} = \frac{3}{\sqrt{10}}$



$\theta + \alpha = 100^\circ$

$xy = x + a \Rightarrow y = x + a$

$\tan \theta = 1 \Rightarrow \theta = 45^\circ$

$100 - 45 = 55$

$\alpha = 55 \Rightarrow \beta = 40 \Rightarrow \tan 40^\circ = \frac{1}{\sqrt{3}}$

$\frac{1}{\sqrt{3}} = \frac{a}{b} \Rightarrow b = a\sqrt{3}$

$m_b = \frac{1}{\sqrt{3}}$

$f(x) = \cos(\pi + x) + \sin(\frac{\pi}{2} - x) - \tan(\frac{\pi}{4} + x)$

$f(\frac{\pi}{4}) = ?$
 $-\cos x + \cos x - (-\cot x) = \cot x$

$f(\frac{\pi}{4}) = \cot(\frac{\pi}{4}) = 1$

$\sin(\frac{\sqrt{3}\pi}{4} + x) + \cos(\frac{\sqrt{3}\pi}{4} - x)$

$\frac{\sin(\frac{\sqrt{3}\pi}{4} + x) + \cos(\frac{\sqrt{3}\pi}{4} - x)}{\cos(\frac{\sqrt{3}\pi}{4} + x) - \sin(\frac{\sqrt{3}\pi}{4} - x)} = \frac{\cos x + (-\sin x)}{-\cos x + \sin x}$

$= \frac{\cos x - \sin x}{-\cos x + \sin x} = \frac{\cos x - \sin x}{-(\cos x - \sin x)} = -1$