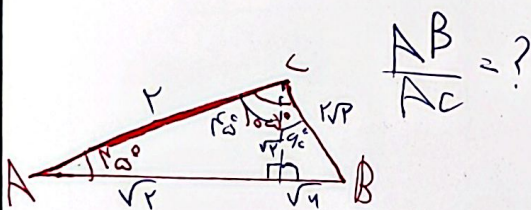
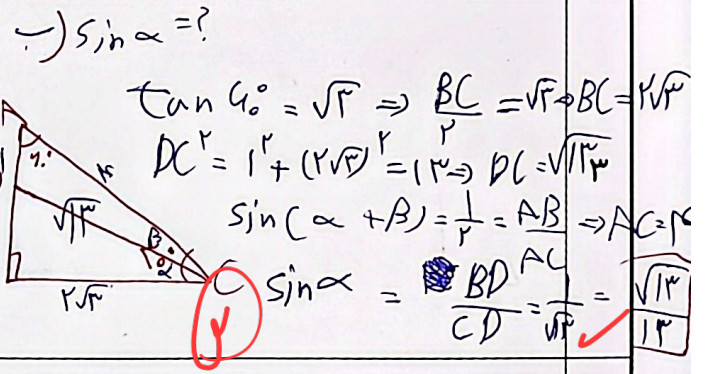
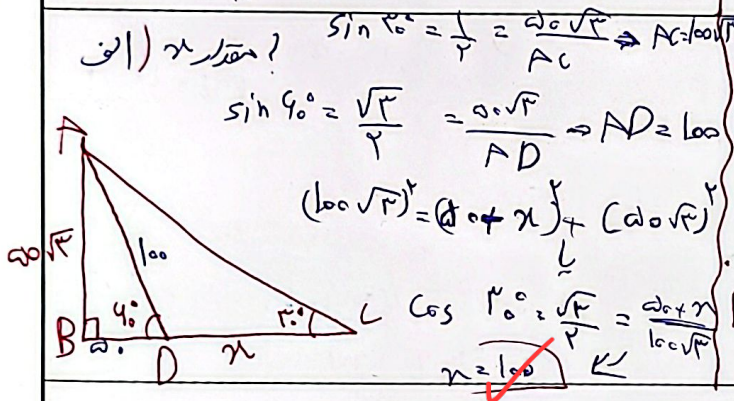
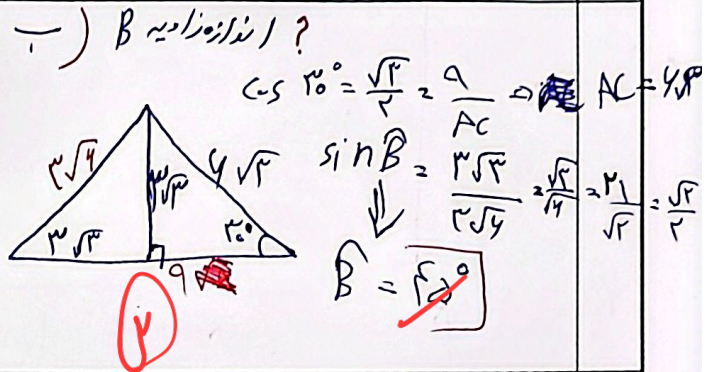
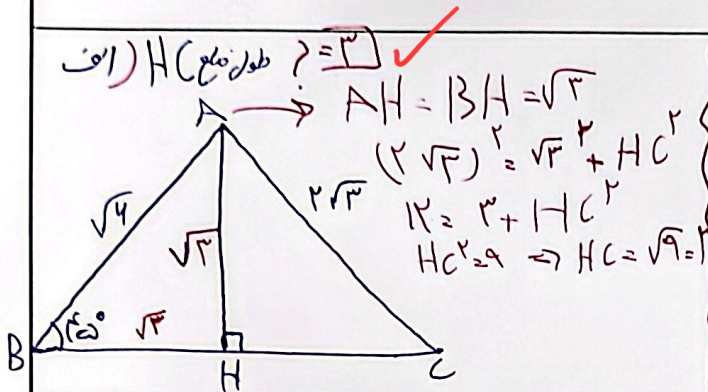


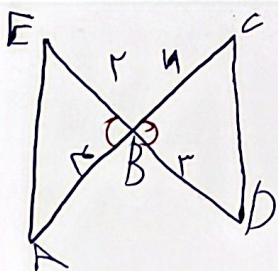
نام و نام خانوادگی کلاس شماره تکلیف شماره پاسخنامه تشریحی

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

ب) $\frac{1 + 2 \tan^2 11^\circ}{2 \cos 22^\circ + 2 \cos 22^\circ} = \frac{1 + 1}{2 + 1} = \frac{2}{3} = \frac{1}{1.5}$ ✓ (2)

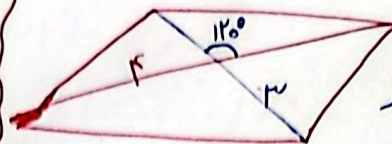
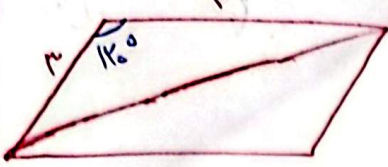


$AB = \sqrt{2} + \sqrt{4}$
 $AC = 2$
 $\frac{AB}{AC} = \frac{\sqrt{2} + \sqrt{4}}{2}$ ✓ (2)

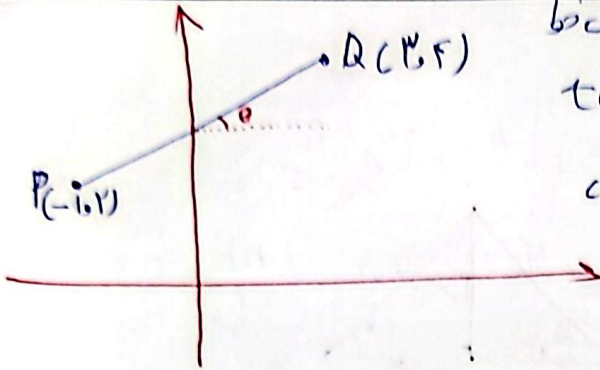


$\frac{S_{\triangle ABE}}{S_{\triangle BCD}} = \frac{\frac{1}{2} \times 2 \times 4 \times \sin B}{\frac{1}{2} \times 2 \times 4 \times \sin B} = 1$ ✓ (2)

الف) $S = \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \sin 110^\circ =$
 $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \frac{\sqrt{2}}{2} = \frac{\sqrt{2}}{16}$

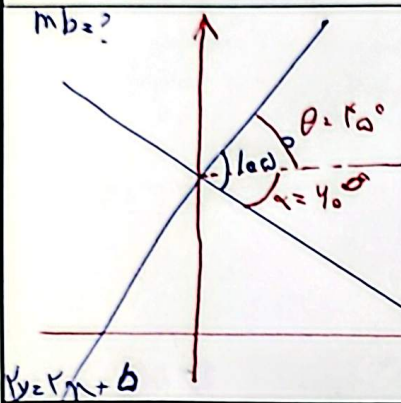


$S = \frac{1}{2} ab \sin C \Rightarrow \frac{1}{2} \times \frac{1}{2} \times \frac{\sqrt{2}}{2} = \frac{\sqrt{2}}{16}$
 (المساحة المظللة)



ب) $\frac{y_2 - y_1}{x_2 - x_1} = \frac{1 - 2}{2 - (-1)} = \frac{-1}{3} = -\frac{1}{3}$
 $\tan \theta = -\frac{1}{3}$
 $\cos \theta = \frac{1}{\sqrt{\tan^2 \theta + 1}} = \frac{1}{\sqrt{\frac{1}{9} + 1}} = \frac{3}{\sqrt{10}}$

$y = mx + b \rightarrow m = \text{slope} = -\frac{1}{3}$



$\theta + \alpha = 180^\circ$

$mb = \frac{1}{-1} \times (-\sqrt{2}) = \frac{\sqrt{2}}{1}$

$xy = x + a \Rightarrow y = x + \frac{a}{x}$

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

$180^\circ - 45^\circ = 135^\circ$

$\alpha = \beta \Rightarrow \beta = 45^\circ \Rightarrow \tan 45^\circ = 1$

$\frac{1}{1} = (\sqrt{2}) \cos \theta + b \Rightarrow b = \frac{1}{\sqrt{2}}$

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

$f(\frac{\pi}{4}) = \cos(\frac{\pi}{4}) = \cos(45^\circ) = \frac{\sqrt{2}}{2}$

$\frac{\sin(\frac{\sqrt{2}\pi}{2} + x) + \cos(\frac{\sqrt{2}\pi}{2} - x)}{\cos(\pi + x) - \sin(4\pi - x)} = \frac{\cos x + (-\sin x)}{-\cos x + \sin x}$
 $= \frac{\cos x - \sin x}{-\cos x + \sin x} = \frac{\cos x - \sin x}{-(\cos x - \sin x)} = -1$