

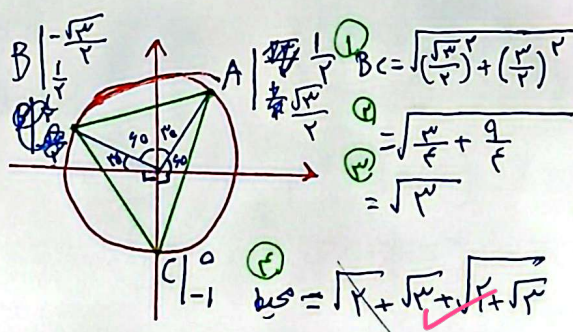
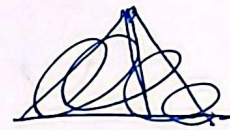
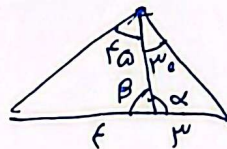
نام و نام خانوادگی یحیی (دانش آموز) پاسخنامه تشریحی تکلیف شماره ۱۴ کلاس B
ترتیب راه حل ها (h) مشخص شده



① $\sin \alpha = \sin \beta$ چون مکمل اند

② $\frac{3}{\sin 30} = \frac{4}{\sin 45} = \frac{AC}{\sin \alpha} = \frac{AB}{\sin \beta}$

③ $\frac{AB}{AC} = \frac{4\sqrt{2}}{4} = \sqrt{2}$ ✓



④ $\hat{A} = 45 + 15 = 60^\circ$

⑤ $AB = \sqrt{\left(\frac{\sqrt{3}-1}{2}\right)^2 + \left(\frac{\sqrt{3}+1}{2}\right)^2} = \sqrt{2}$

⑥ $AC = \sqrt{\left(\frac{1}{2}\right)^2 + \left(\frac{\sqrt{3}+2}{2}\right)^2} = \sqrt{2+\sqrt{3}}$

⑦ $\frac{1}{2} \times \frac{\sqrt{3}}{2} \times \sqrt{2} \times \sqrt{2+\sqrt{3}} = \frac{\sqrt{3}}{4} \times \sqrt{2+\sqrt{3}}$

⑧ $= \frac{\sqrt{3}}{4} \times (\sqrt{3}+1) = \frac{3+\sqrt{3}}{4}$

① $\frac{1}{2} \times \sin \hat{A} \times \frac{\log 16}{\log 2} \times \frac{\log 16}{\log 4} = \frac{1}{2} \times \log_2 16 \times \log_4 16 = \frac{1}{2} \times 4 \times 2 = 4$ ✓

① $2(\cos^2 \alpha - \sin^2 \alpha) - 2(\cos^2 \alpha - \sin^2 \alpha) = 1$

② $\cos 2\alpha = 1 \Rightarrow \alpha = 180^\circ$ ؟

③ $\sin^2 \alpha \rightarrow \sin^2 90 = 1$
 $\sin^2 \alpha \rightarrow \sin^2 0 = 0$ ✓

سوال ۱

$$BT = \tan\left(\frac{\pi}{4} - \alpha\right) = \cot \alpha$$

OA و OT شعاع‌های دایره هستند

و طول آنها یک است.

$$OB^2 = OT^2 + BT^2 \rightarrow OB^2 = 1^2 + \cot^2 \alpha \rightarrow OB^2 = 1 + \cot^2 \alpha$$

$$OB^2 = \frac{1}{\sin^2 \alpha} \rightarrow OB = \frac{1}{|\sin \alpha|} \xrightarrow{\text{با توجه به } \alpha} OB = \frac{1}{\sin \alpha}$$

$$AB + 1 = \frac{1}{\sin \alpha} \rightarrow AB = \frac{1}{\sin \alpha} - 1 = \frac{1 - \sin \alpha}{\sin \alpha}$$

سوال ۱۰

$$f(-r, \omega) = f(-r, \omega + 1) = f(r, -\omega + 1) = f(r, \omega)$$

$$f(n) = \begin{cases} -\frac{1}{r}n + 1 & ; 0 \leq n \leq r \\ rn + r & ; -1 \leq n < 0 \end{cases} \rightarrow f(r, \omega) = -\frac{1}{r}\left(\frac{r}{r}\right) + 1 = \frac{1}{r}$$