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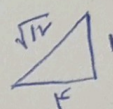
نام و نام خانوادگی پاسبانمه تشریحی تکلیف شماره کلاس

$$a) \tan \frac{11\pi}{4} + \sin \frac{15\pi}{4} \cos \frac{13\pi}{4} = -1 + \left(-\frac{\sqrt{2}}{2}\right) \left(-\frac{\sqrt{2}}{2}\right) = -1 + \frac{1}{2} = -\frac{1}{2}$$

$$b) \tan \frac{14\pi}{4} \sin \frac{11\pi}{4} + \cos \frac{10\pi}{4} = \left(-\frac{\sqrt{3}}{2}\right) \left(-\frac{\sqrt{3}}{2}\right) + \left(-\frac{1}{2}\right) = \frac{1}{2} - \frac{1}{2} = 0$$

$$\frac{r \cos x - \sin x}{\cos x + \sin x} = \frac{r \times 4 - 1}{r + 1} = \frac{11}{5} = r, r$$

$$\frac{\cos x}{\sin x} = r$$



$$\sin x = r \cos x \quad \sin x < 0 \quad \cos x < 0$$

$$\sin^2 x + \cos^2 x = 1 \quad (r \cos x)^2 + \cos^2 x = 1$$

$$\cos^2 x = 1 \quad \cos^2 x = \frac{1}{r^2 + 1}$$

$$\cos x = -\frac{1}{\sqrt{5}} \times \frac{\sqrt{5}}{\sqrt{5}} = -\frac{1}{\sqrt{5}}$$

$$\cos\left(\frac{11\pi}{4} + x\right) = \cos\left(\frac{3\pi}{4} + x\right) = \cos \frac{3\pi}{4} \cos x - \sin \frac{3\pi}{4} \sin x = \left(-\frac{\sqrt{2}}{2}\right) \left(-\frac{\sqrt{2}}{2}\right) - \left(\frac{\sqrt{2}}{2}\right) \left(\frac{\sqrt{2}}{2}\right) = \frac{1}{2} - \frac{1}{2} = 0$$

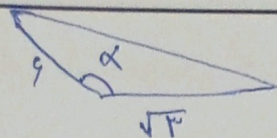
$$\sin\left(\frac{11\pi}{4} + x\right) = \sin\left(\frac{3\pi}{4} + x\right) = \sin \frac{3\pi}{4} \cos x + \cos \frac{3\pi}{4} \sin x = \left(\frac{\sqrt{2}}{2}\right) \left(-\frac{\sqrt{2}}{2}\right) + \left(-\frac{\sqrt{2}}{2}\right) \left(\frac{\sqrt{2}}{2}\right) = -\frac{1}{2} - \frac{1}{2} = -1$$

$$r \sin^2 x + \cos^2 x = \frac{r}{r}$$

$$\tan^2 x = \frac{\sin^2 x}{\cos^2 x} = \frac{1}{r} = \frac{1}{r}$$

$$\sin^2 x + \sin^2 x + \cos^2 x = \frac{r}{r}$$

$$\sin^2 x = \frac{1}{r} \quad \cos^2 x = 1 - \sin^2 x = 1 - \frac{1}{r} = \frac{r-1}{r}$$



$$\frac{1}{r} \times y \times \sqrt{r^2 - y^2} \times \sin \alpha = \frac{y}{r} \omega$$

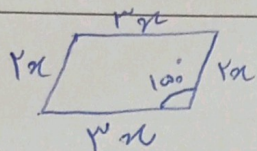
$$\sin \alpha = \frac{y}{r} \omega = \frac{y \omega \times 1}{r \times \sqrt{r^2 - y^2}}$$

$$= \frac{1 \omega}{\sqrt{r^2 - y^2}} = \frac{\sqrt{r^2 - y^2}}{r}$$

$$\left. \begin{aligned} \sin 40^\circ &= \frac{\sqrt{r}}{r} \\ \sin 110^\circ &= \frac{\sqrt{r}}{r} \end{aligned} \right\} \alpha = 40^\circ \text{ or } \alpha = 110^\circ$$

$$\frac{\text{Max } \alpha}{\text{Min } \alpha} = \frac{110}{40} = \boxed{\frac{11}{4}}$$

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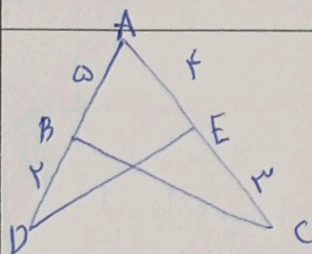


$$r \times r \times \sin 100^\circ = \omega r$$

$$r \times r \times \frac{1}{r} = \omega r \quad r = \sqrt{10} \times \sqrt{r}$$

$$r + r + r + r = 10r = 10 \times \sqrt{10} \times \sqrt{r} \quad \boxed{r = 10 \sqrt{10}}$$

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$$S_{ABC} - S_{ADE} = 1/10 \omega$$

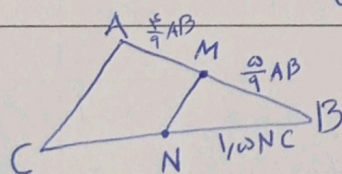
$$\frac{1}{r} \times \omega \times \frac{1}{2} \times \sin A - \frac{1}{r} \times \tau \times \frac{1}{2} \times \sin A = 1/10 \omega$$

$$\frac{\omega \omega}{r} \sin A - \frac{\tau \tau}{r} \sin A = 1/10 \omega$$

$$\frac{\omega}{r} \sin A = 1/10 \omega \Rightarrow \sin A = \frac{1}{r} \quad \cos A = \frac{\sqrt{r}}{r}$$

$$\tan A = \frac{\sin A}{\cos A} = \frac{1/r}{\sqrt{r}/r} = \frac{1}{\sqrt{r}} = \frac{\sqrt{r}}{r} \quad \boxed{r = 1}$$

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$$r_{BN} = r_{NC}$$

$$BN = \frac{1}{4} NC$$

$$\omega_{AB} = 9BM \quad BM = \frac{1}{9} AB$$

$$\frac{S_{ABC}}{S_{BMN}} = r \quad \frac{\frac{1}{4} \times AB \times BC \times \sin B}{\frac{1}{4} \times BM \times BN \times \sin B} = r$$

$$\frac{AB \times \frac{1}{4} NC}{BM \times \frac{1}{4} NC} = r \quad \frac{AB}{BM} = \frac{9}{1}$$

$$\frac{BM}{AM} = \frac{1/4}{1/4} = \frac{1}{1} \quad \boxed{r = 1}$$

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$$\frac{|\sin \alpha|}{\cos \alpha} = -\frac{1}{\cot \alpha}$$

$$\frac{|\sin \alpha|}{\cos \alpha} = \frac{\sin \alpha}{\cos \alpha}$$

$$|\sin \alpha| = -\sin \alpha$$

$$\boxed{\sin \alpha < 0}$$

$$\frac{1}{\sqrt{\cos \alpha}} - \tan \alpha = \frac{1 + \sin \alpha}{|\cos \alpha|} \quad \frac{1}{|\cos \alpha|} - \frac{\sin \alpha}{\cos \alpha} = \frac{1 + \sin \alpha}{|\cos \alpha|}$$

$$\frac{1 - \sin \alpha}{|\cos \alpha|} = \frac{\sin \alpha}{\cos \alpha} \quad \frac{-\sin \alpha}{|\cos \alpha|} = \frac{\sin \alpha}{\cos \alpha} \quad -|\cos \alpha| = \cos \alpha$$

لأنه
 $\boxed{\cos \alpha < 0}$

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