

$$\cos \alpha = \frac{r}{r} \quad 1 - \cos^2 \alpha = 1 - \frac{r}{q} = \frac{q}{q} - \sin^2 \alpha \rightarrow \sin \alpha = -\frac{\sqrt{q}}{r}$$

$$\frac{\sin\left(\frac{\pi}{r} + \alpha\right) - \sin(\alpha - \frac{\pi}{r})}{|\tan^2 \alpha - 1|} = \frac{+\cos \alpha + \sin \alpha}{\left|\frac{q}{r} - 1\right|} = \frac{\frac{r - \sqrt{q}}{r}}{\frac{1}{r}} = \frac{r - \sqrt{q}}{r} \quad (5)$$

$$\tan \alpha = \frac{\sin \alpha}{\cos \alpha} = \frac{-\frac{\sqrt{q}}{r}}{\frac{r}{r}} = -\frac{\sqrt{q}}{r}$$

$$\sin \alpha = r \cos \alpha \quad r \cos^2 \alpha + \cos^2 \alpha = 0 \cos^2 \alpha = 1$$

$$\cos \alpha = -\frac{1}{\sqrt{q}}$$

$$\sin \alpha = -\frac{r}{\sqrt{q}}$$

(5)

$$r m \alpha + (m^2 - 1) y = r$$

$$m = \frac{-r m}{m^2 - 1} = \tan \alpha = \sqrt{r} \quad (5)$$

$$\sqrt{r} - \left(\frac{1}{\sqrt{r}}\right) = \frac{r}{\sqrt{r}}$$

$$-r m = \sqrt{r} m^2 - \sqrt{r}$$

$$\sqrt{r} m^2 + r m - \sqrt{r} = 0 \rightarrow \begin{matrix} m' + r m' - r = 0 \\ (m' - r)(m' + 1) = 0 \end{matrix} \rightarrow \begin{matrix} m' = -1 \rightarrow \frac{1}{\sqrt{r}} = m \\ m' = r \rightarrow \sqrt{r} = m \end{matrix}$$

$$-\frac{\pi}{r} < \alpha < \frac{\pi}{r}$$

$$\frac{\pi}{r} > -\alpha > -\frac{\pi}{r}$$

$$\frac{\pi}{r} > \frac{\pi}{r} - \alpha > 0$$

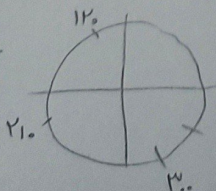
$$+\infty > \tan\left(\frac{\pi}{r} - \alpha\right) > 0 \quad +\infty > \frac{1 - m}{r + m} > 0$$

$$-r < m < 1 \quad (5)$$

$$\tan(r_1) \cos(r_2) + \frac{\tan(r_1) \sin(\pi r_1)}{\tan(r_2) \sin(\pi r_2)} = (-\sqrt{r})\left(-\frac{\sqrt{r}}{r}\right) + (\sqrt{r})\left(\frac{\sqrt{r}}{r}\right) = 0$$

$$\tan(r_1) = -\sqrt{r}$$

$$\cos(r_1) = -\frac{\sqrt{r}}{r}$$



$$\tan(r_2) = \sqrt{r}$$

$$\sin(r_2) = \frac{\sqrt{r}}{r}$$

(5)

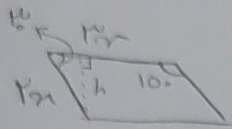
(1)

(تکلیف ۲۶)

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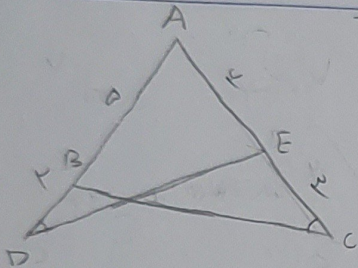
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(بازدهم در ۱۳)



مساحت پاره‌ای
مستطیل: $h = \frac{10}{\sin 10^\circ} = x$

$$S = \frac{10 \times x}{2} = \frac{10}{2} x \rightarrow x = \sqrt{10} \quad \text{مساحت} = (10m + 20m) \times \frac{1}{2} \times x = 10 \times x = 10\sqrt{10}$$



$$S = \frac{1}{2} ab \sin A$$

$$S_{ABC} = \frac{1}{2} \times 20 \times 20 \times \sin A = \frac{200}{\sin A} \sin A \quad \text{و} \quad S_{ADE} = \frac{1}{2} \times x \times x \times \sin A = \frac{1}{2} x^2 \sin A$$

$$S_{ABC} - S_{ADE} = 200 - \frac{1}{2} x^2 \sin A = 100$$

$$\sin A = \frac{1}{2} \rightarrow A = 30^\circ$$

$$\tan 30^\circ = \frac{\sqrt{x}}{x} \rightarrow \tan 30^\circ = \frac{\sqrt{x}}{x}$$

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

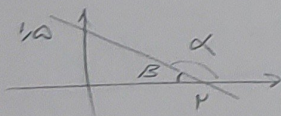
$$\frac{1}{\sqrt{\cos^2 \alpha}} - \tan \alpha = \frac{1 + \sin \alpha}{1 \cos \alpha}$$

$$\frac{|\sin \alpha|}{\cos \alpha} = \frac{-\sin \alpha}{\cos \alpha} \rightarrow \sin \alpha < 0$$

$$\frac{1}{|\cos \alpha|} - \frac{\sin \alpha}{\cos \alpha} = \frac{1 + \sin \alpha}{|\cos \alpha|} \rightarrow \cos \alpha < 0$$



$$= \frac{1}{\cos \alpha} \sin \alpha$$



$$\cot \beta = \frac{1}{1/10}$$

$$\tan \left(\frac{\pi}{2} - \alpha \right) = \cot \alpha$$

$$\cot \alpha = \cot(\pi - \beta) = -\cot \beta = -\frac{1}{1/10}$$

$$\frac{3 \cos(2\pi) - 2 \sin(10\pi)}{\sin(2\pi) - \cos(2\pi)} = \frac{-3 \sin(2\pi) - 2 \sin(2\pi)}{-\sin(2\pi) - \sin(2\pi)} = \frac{-0}{-2} = \frac{1}{2}$$

$$\cos(2\pi) = \cos\left(\frac{\pi}{2} - 2\pi\right) = -\sin(2\pi)$$

$$\sin(10\pi) = \sin(\pi - 2\pi) = \sin(2\pi)$$

$$\sin(2\pi) = \sin(\pi + 2\pi) = -\sin(2\pi)$$

$$\cos(2\pi) = \cos\left(\frac{\pi}{2} + 2\pi\right) = +\sin(2\pi)$$

