

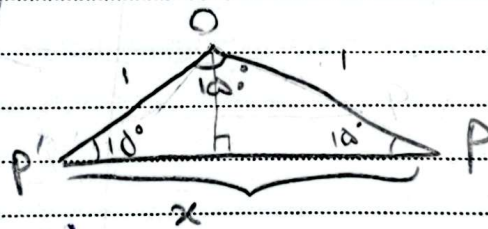
حل المسألة

$$\frac{a \sin \frac{\pi}{4} + b \cos \frac{\pi}{4}}{a \sin \frac{\omega \pi}{4} + b \cos \frac{\pi}{4}} = \tan \frac{\omega \pi}{4} \Rightarrow \frac{\frac{\sqrt{2}}{2} a + \frac{\sqrt{2}}{2} b}{\frac{1}{2} a + \frac{1}{2} b} = \frac{1}{-\frac{\sqrt{2}}{2}}$$

$$\Rightarrow \frac{\frac{\sqrt{2}}{2} (a+b)}{\frac{1}{2} (a+b)} = \frac{1}{-\sqrt{2}} \Rightarrow$$

$$P \left(\frac{1}{2}, \frac{\sqrt{2}}{2} \right) \rightarrow P = \frac{\pi}{4} \pm 45^\circ \quad P' = 21. + 45^\circ = 21.0^\circ$$

$$y = \frac{\sqrt{2}}{2}$$



$$x = \sqrt{OP^2 + OP'^2 - 2 \cdot OP \cdot OP' \cdot \cos \theta} = \sqrt{1 + 1 - 2 \cos 10^\circ}$$

$$= \sqrt{2 + \sqrt{2}}$$

$$\frac{\pi}{9} \times \frac{180}{\pi} = 20^\circ$$

$$Y_0 = \left| \frac{H}{F} \times M - \frac{M}{F} \times H \right|$$

$$K = \left| \frac{H}{F} M - \frac{M}{F} H \right|$$

$$Y_0 = \frac{H}{F} M - 90^\circ \Rightarrow H_0 = \frac{H M}{F} \Rightarrow M = Y_0'$$

$$- Y_0 = \frac{H}{F} M - 90^\circ \Rightarrow V_0 = \frac{H M}{F} \Rightarrow M = \frac{18^\circ}{\frac{1}{2}} = 36^\circ$$

رحلت حضرت زینب (س) - تغییر قبله مسلمان از بیت المقدس به مکه معظمه

۱۶

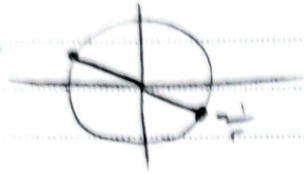
سه شنبه

دی ماه

۱۶ رجب ۱۴۴۷

6 Jan 2026

$$-\frac{\pi}{2} < \alpha < \frac{\pi}{2} \Rightarrow -\frac{1}{r} < \sin \alpha < \frac{1}{r} \quad (6)$$



$$\frac{1}{r} < \frac{m \cdot r}{\omega} < \frac{1}{r} \Rightarrow -\frac{\omega}{r} < m - \frac{\omega}{r} < \frac{\omega}{r}$$

$$\frac{1}{r} < m < \frac{1}{r} \quad 1, 2, 3, 4, 5, 6, 7, 8, 9$$

مجموعه

$$\sin(70^\circ + 10^\circ) + k \cos(170^\circ - 10^\circ) = \cos 10^\circ = k \sin(10^\circ) = r \quad (7)$$

$$\cos(110^\circ - 10^\circ) + r \sin(110^\circ + 10^\circ) = \cos 10^\circ = r \sin 10^\circ$$

$$\xrightarrow{-\cos 10^\circ} \frac{1 - k \tan 10^\circ}{-1 - r \tan 10^\circ} = r \xrightarrow{\tan 10^\circ = \frac{1}{r}} \frac{1 - \frac{1}{r} k}{-1 - \frac{1}{r}} = r$$

$$\Rightarrow 1 - \frac{1}{r} k = r(-1 - \frac{1}{r}) \Rightarrow 1 - \frac{1}{r} k = -r - 1 \Rightarrow \frac{1}{r} k = 2r \Rightarrow k = 2r^2$$

$$\Rightarrow k = \frac{0.0}{1.0} \Rightarrow \frac{r \cdot x - 0.0}{1.0} = 2r \quad k = 2r$$

$$\cot(x) = \cot(n)$$

چهارشنبه

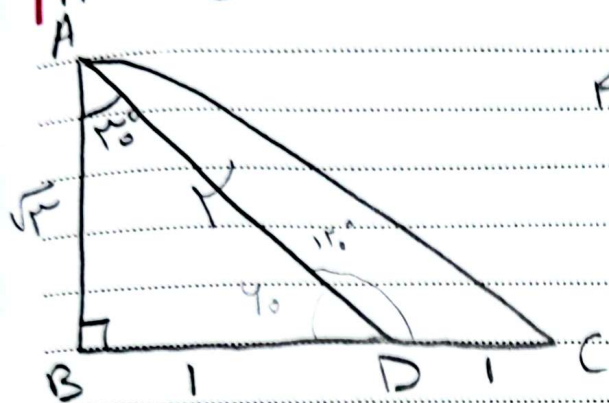
دی ماه

۱۷

۱۴۴۷ رجب ۱۷

7 Jan 2026

۱۴.۴ $b^2 = 1^2 + 4^2 \Rightarrow b = \sqrt{17}$



$4^2 = 1 + AB^2 \Rightarrow AB = \sqrt{15}$

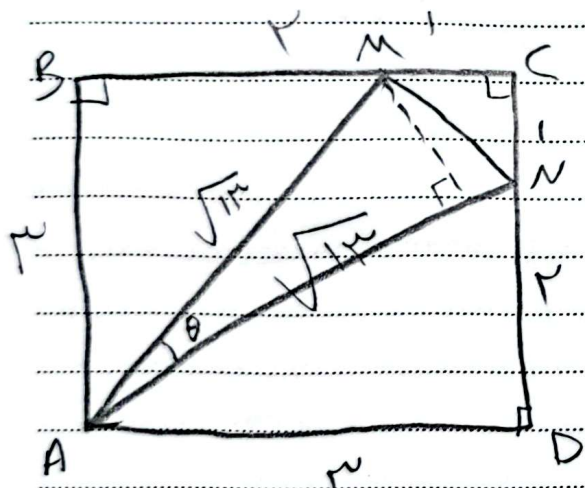
$S_{ABC} = \frac{AB \times BC}{2} = \sqrt{15}$

$\sqrt{15} \times BC = 2\sqrt{15} \Rightarrow BC = 2$

$\Rightarrow CD = 1$

$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} \Rightarrow \frac{2}{\sin A} = \frac{\sqrt{17}}{1} = \frac{\sqrt{17}}{\sin C}$

$\sin C = \frac{\sqrt{17}}{\sqrt{17}}$



$AN^2 = ND^2 + AD^2 \Rightarrow AN = \sqrt{1+4} = \sqrt{17}$

$AN = AM$