

۱۹،۷۵ آفریں!

$$\left(\frac{\sqrt{2}}{2} + \left(-\frac{\sqrt{2}}{2}\right)\right)\left(\frac{\sqrt{2}}{2} + \frac{1}{2}\right) - \left(\frac{\sqrt{2}-\sqrt{2}}{2}\right)\left(\frac{\sqrt{2}+1}{2}\right) = \frac{(2-2)}{4}$$

$$= \left(-\frac{1}{4}\right) \checkmark$$

$$\frac{1+1}{2+1} = \frac{2}{3} = \frac{1}{\frac{3}{2}} \checkmark$$

$$\sqrt{6} \times \frac{\sqrt{2}}{2} \cos 45^\circ = \sqrt{2} \in \overline{AH}$$

$$\hat{C} = 30^\circ \checkmark \quad HC = 2 \leftarrow 2\sqrt{2} \times \frac{\sqrt{2}}{2} = 2 \checkmark$$

۱۵۰X

$$9 \times \frac{2}{\sqrt{2}} = 6\sqrt{2} = \overline{AC}$$

$$\frac{2\sqrt{2}}{2\sqrt{2}} = \frac{\sqrt{2}}{2} = \sin 45^\circ$$

$$\overline{AH} = 6\sqrt{2} \times \frac{1}{2} = 3\sqrt{2}$$

$$\hat{B} = 45^\circ \checkmark$$

۱۲۵X

$$\overline{AB} = 50\sqrt{2}$$

$$x = 100 \checkmark$$

$$\overline{AD} = 50\sqrt{2} \times \frac{2}{\sqrt{2}} = 100$$

$$\overline{BD} = 50$$

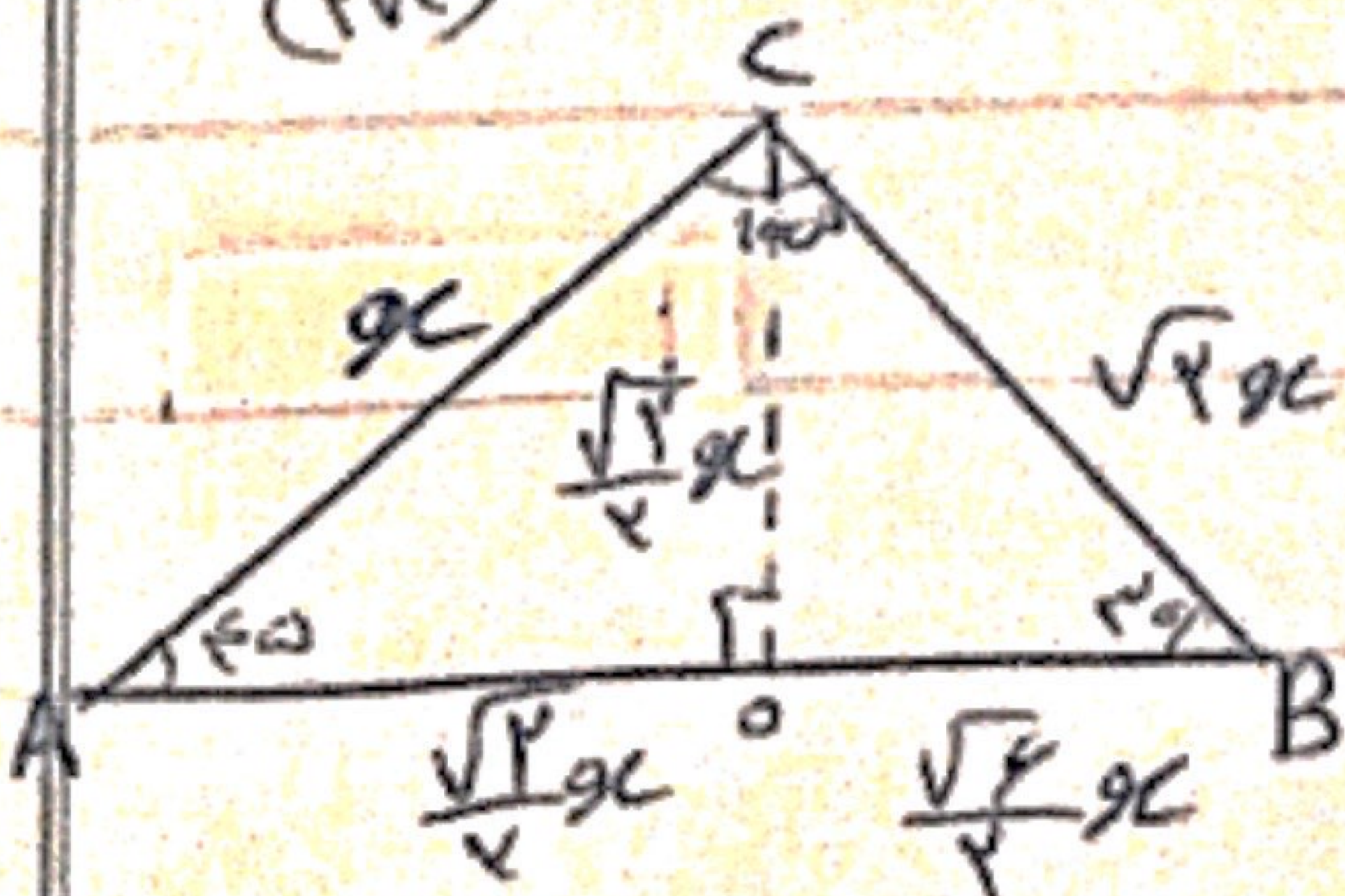
$$\overline{AC} = 100\sqrt{2} \leftarrow \text{ضلع روبه بر زاویه ۹۰ درجه و زاویه ۴۵ درجه}$$

$$\overline{BC} = 100\sqrt{2} \times \frac{\sqrt{2}}{2} = 100$$

$$\overline{AB} = 2 \quad \overline{AC} = 4 \quad \overline{BC} = 4 \times \frac{\sqrt{2}}{2} = 2\sqrt{2}$$

$$1+12=13 \Rightarrow \overline{DC} = \sqrt{13} \checkmark$$

$\frac{1}{\sqrt{13}} = \frac{\sqrt{13}}{13} \checkmark$



$$\frac{\left(\frac{\sqrt{2}+\sqrt{2}}{2}\right)9C}{9C} = \frac{\sqrt{2}+\sqrt{2}}{2} \checkmark$$

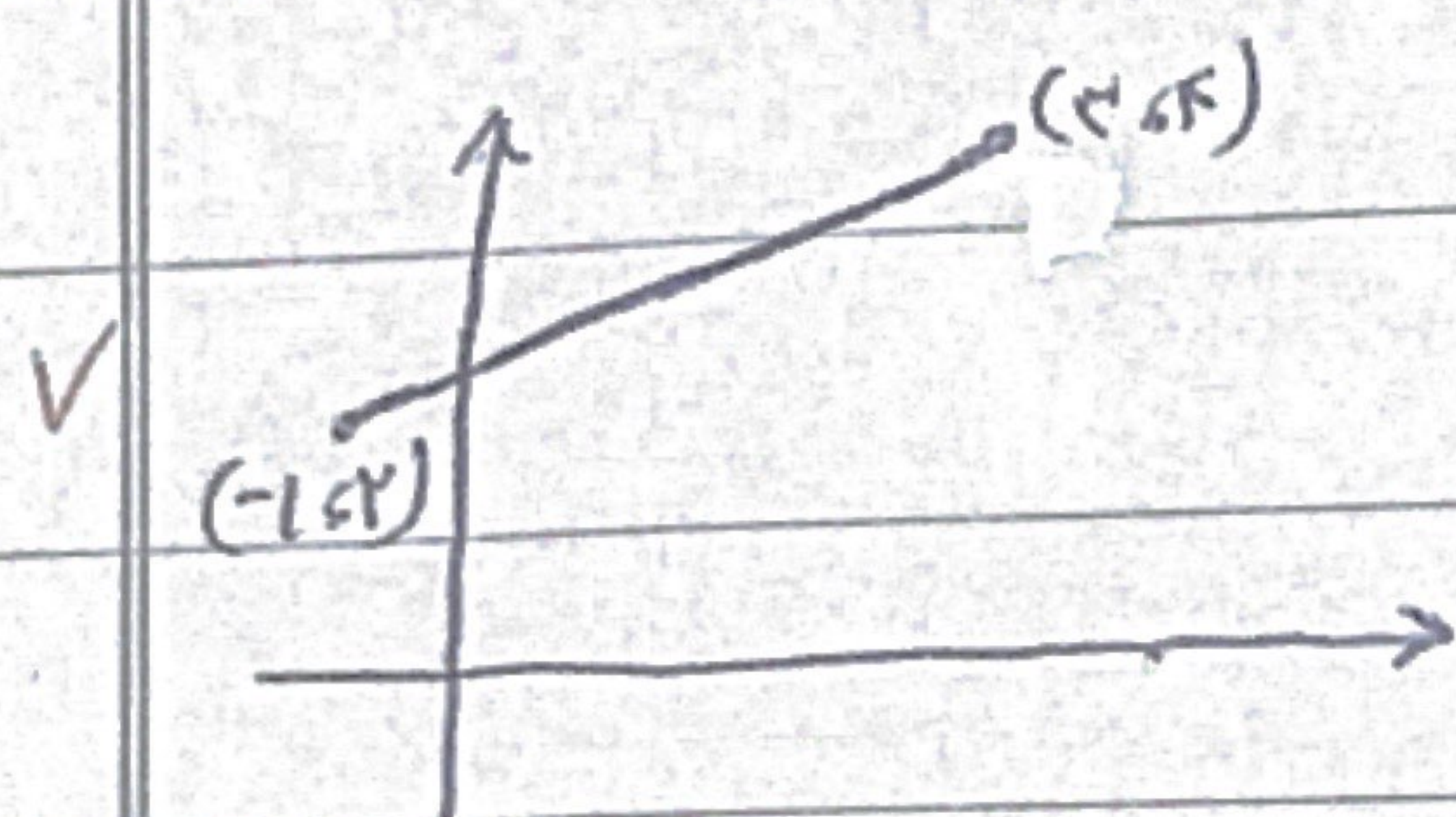
$$\frac{4 \times 2 \times \frac{1}{2} \times \sin 90}{4 \times 4 \times \frac{1}{2} \times \sin 90} = \frac{4}{4} \checkmark$$

$$9 \quad 2\left(\frac{1}{\sqrt{2}} \times \sqrt{2} \times \sqrt{2} \times \sin 120^\circ\right) = 2\sqrt{2} \quad \checkmark$$

(2)

$$\left(\sqrt{2} \times \sqrt{2} \times \frac{1}{\sqrt{2}} \times \sin 120^\circ\right) = \sqrt{2} \quad \checkmark$$

(1, \sqrt{3})



$$\tan \theta = \frac{y}{x} = \frac{1}{\sqrt{3}} \rightarrow \cos \theta = \frac{1}{\sqrt{3}} \quad \checkmark$$

ضلع مجاورہ وتر

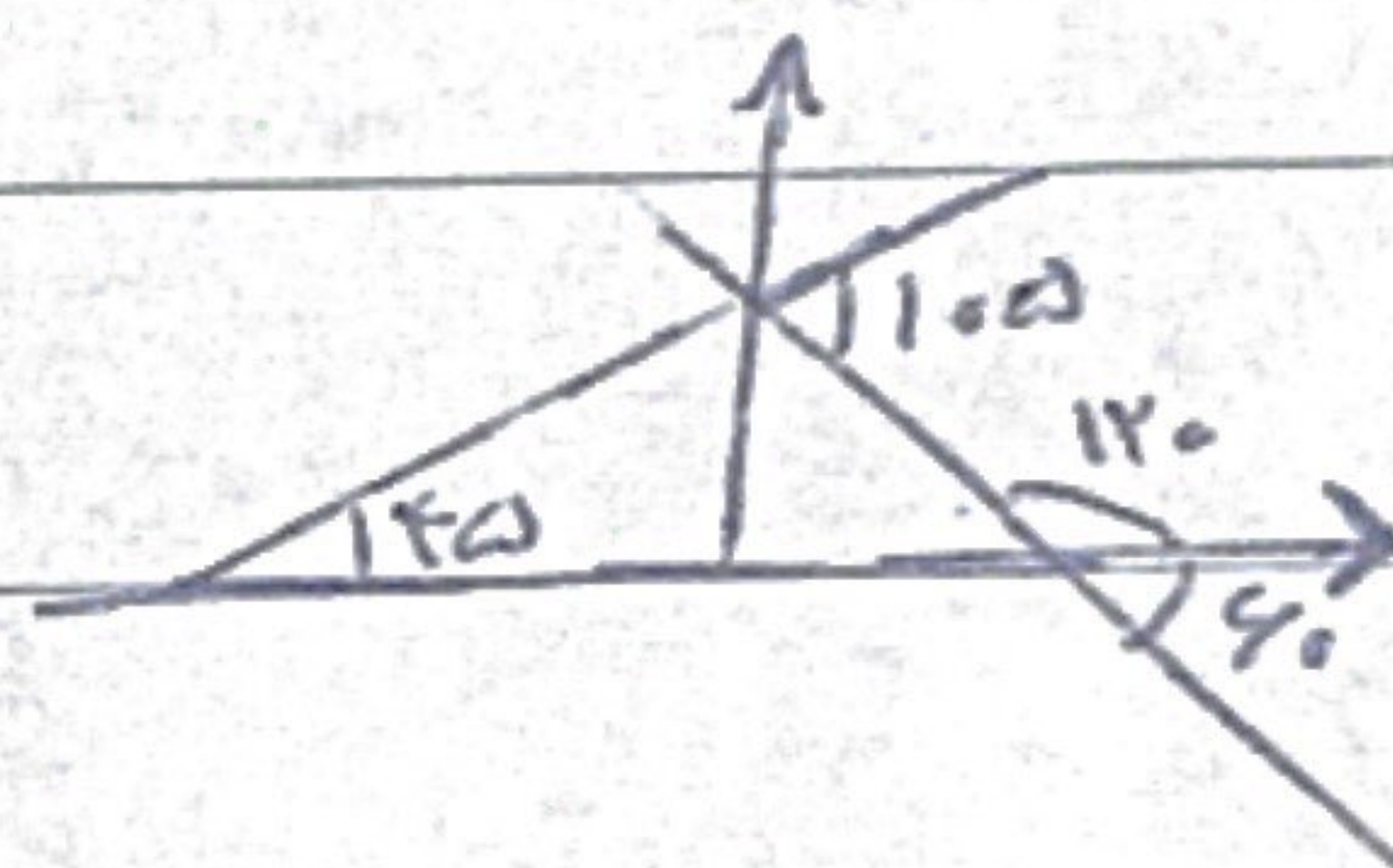
$$11 \quad y = 9x + \frac{a}{\sqrt{2}}$$

$$y = mx + b$$

$$b = \frac{a}{\sqrt{2}} \quad m = \sqrt{2}$$

$$\tan 60^\circ = \sqrt{3}$$

$$\tan 120^\circ = -\sqrt{3}$$



(2)

$$mb = -\frac{a\sqrt{2}}{\sqrt{2}} \quad \checkmark$$

$$9 \quad f\left(\frac{5\pi}{4}\right) = \cos\left(\frac{11\pi}{4}\right) + \sin\left(-\frac{\pi}{4}\right) - \tan\left(\frac{\sqrt{\pi}}{4}\right)$$

$$\frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2} - \sqrt{2} = -\sqrt{2} \quad \checkmark$$

(2)

$$10 \quad \sin\left(\frac{14\pi}{4} + 90^\circ\right) = \cos 90^\circ$$

$$\cos\left(\frac{15\pi}{4} - 90^\circ\right) = -\sin 90^\circ$$

$$\cos(3\pi + 90^\circ) = -\cos 90^\circ$$

$$\sin(4\pi - 90^\circ) = -\sin 90^\circ$$

$$\frac{\cos 90^\circ - \sin 90^\circ}{\sin 90^\circ - \cos 90^\circ} = -1 \quad \checkmark$$

(2)