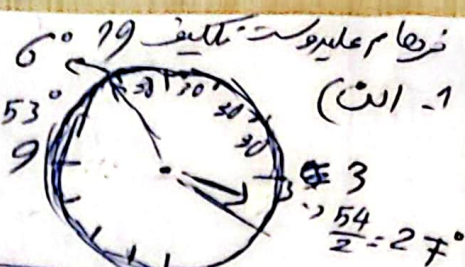
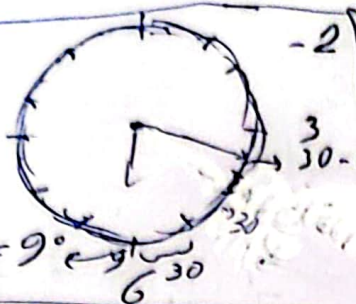


$$|5.5m - 30h| = |5.5 \cdot 54 - 30 \cdot 3| = 207 \quad (\leftarrow)$$

$$360 - 207 = 153$$

$$30 + 30 + 9 + 12 = 81^\circ$$

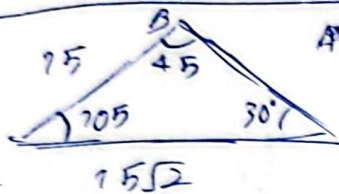
$$15.5 \cdot 18 - 30 \cdot 6 = 81^\circ$$



$$a = \sqrt{c^2 + b^2 - 2bc \cos A} = \sqrt{64 + 25 - 2 \cdot 8 \cdot 5 \cdot \frac{1}{2}} = 7$$

$$\Rightarrow a = 7 \quad a + b + c = 8 + 5 + 7 = 20$$

$$S = \frac{1}{2} ab \sin C = \frac{1}{2} \cdot 8 \cdot 5 \cdot \sin 60 = 10\sqrt{3}$$



$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} \Rightarrow \frac{15}{\sin 105} = \frac{45}{\sin 30} = \frac{c}{\sin 45}$$

$$\sin 45 = \frac{\sqrt{2}}{2} \Rightarrow b = 45$$

$$C = 180 - 30 + 45 = 105^\circ$$

$$\frac{\text{Rad}}{\pi} = \frac{1}{180} \Rightarrow \left(\frac{45}{180} = \frac{\text{Rad}}{\pi} \Rightarrow b = \frac{\pi}{4}, C = \frac{105}{180} = \frac{\text{Rad}}{\pi} \Rightarrow \text{Rad} = \frac{7\pi}{12} \right)$$

$$\frac{\tan(\pi - \alpha) + 3 \tan(\pi + \alpha)}{\tan(3\pi - \alpha) - \tan(2\pi + \alpha)} = \frac{-\tan \alpha + 3 \tan \alpha}{-\tan \alpha + \tan \alpha} = \frac{2 \tan \alpha}{2 \tan \alpha} = 1$$

$$\tan 75 = \frac{\cot 15}{12}, \tan 105 = -\frac{\cot 15}{12}, \tan 165 = -\tan \frac{\pi}{12} \text{ and } 255 = \frac{\cot \pi}{12}$$

$$A = \frac{2 \tan 75 + \tan 105}{3 \tan 165 - \tan 255} = \frac{2 \cot \frac{\pi}{12} + (-\cot \frac{\pi}{12})}{-3 \tan \frac{\pi}{12} - \cot \frac{\pi}{12}} \Rightarrow A = \frac{1}{-3a - \frac{1}{a}} = \frac{1}{-3a^2 - 1} = -\frac{1}{3a^2 + 1}$$

$$\frac{\sin x \cos x}{\sin x - \cos x} + \frac{\sin x - \cos x}{\sin x + \cos x} = 3 \Rightarrow \frac{(\sin x + \cos x)^2 + (\sin x - \cos x)^2}{\sin^2 x - \cos^2 x} = 3$$

$$\Rightarrow \frac{\sin^2 x + \cos^2 x + \sin^2 x - \cos^2 x}{\sin^2 x - \cos^2 x} = \frac{2}{\sin^2 x - \cos^2 x} = 3 \Rightarrow 2 = 3 \sin^2 x - 3 \Rightarrow \sin^2 x = \frac{5}{6}$$

$$\Rightarrow \cos^2 x = \frac{1}{6} \Rightarrow \tan^2 x = 5$$

$$\frac{\sin^2 x - 2 \cos^2 x + 1}{\sin^2 x + 2 \cos^2 x - 1} = 4 \Rightarrow \frac{2 - 3 \cos^2 x}{\cos^2 x} = 4 \Rightarrow 7 \cos^2 x = 2$$

$$\Rightarrow \cos^2 x = \frac{2}{7} \Rightarrow \sin^2 x = \frac{5}{7} \Rightarrow \tan^2 x = \frac{5}{2}$$

$$\cos^2 x = \frac{1 + \cos 2x}{2} \Rightarrow 6 \times 2 \times 5 \Rightarrow \text{ (if) }$$

$$\sqrt{\frac{1 + 6 \cdot 5}{2}} = \sqrt{\frac{2 + 5}{2}} = \sqrt{\frac{2 + \sqrt{2}}{4}} \Rightarrow \frac{\sqrt{2 + \sqrt{2}}}{2} \left(\sin^2 \alpha = \frac{1 - \cos 2\alpha}{2} \Rightarrow \sqrt{\frac{1 - \cos 135^\circ}{2}} = \sin 67.5^\circ \right)$$

$$\Rightarrow \sqrt{\frac{1 + \sqrt{2}}{2}} = \sqrt{\frac{2 + \sqrt{2}}{4}} = \frac{\sqrt{2 + \sqrt{2}}}{2}$$