

$\triangle ABC$ with angles 30° and 150° . Side $BC = 5$.
 $\frac{\sin 30^\circ}{5} = \frac{\sin 150^\circ}{x} \Rightarrow x = 5$
 $\frac{\sin 30^\circ}{5} = \frac{\sin 30^\circ}{y} \Rightarrow y = 5$
 $x = y = 108$, $3x = 2y \Rightarrow \frac{3}{2}x = y \Rightarrow \frac{3}{2}x^2 = 108$
 $x = \sqrt{72} = 6\sqrt{2} \rightarrow y = 9\sqrt{2} \rightarrow 2x + 2y = 30\sqrt{2}$

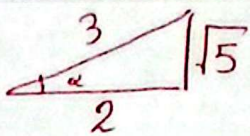
$S_{ABC} - S_{ADE} = 1/75 \rightarrow \frac{\sin A \cdot AB \cdot AC}{2} - \frac{\sin A \cdot AE \cdot AD}{2}$
 $= \frac{\sin A}{2} (35 - 28) = 1/75 \rightarrow \sin A = 0.15$
 $A = 30^\circ$
 $\rightarrow \tan A = \tan 30^\circ = \frac{\sqrt{3}}{3}$

$\frac{1}{\cos \alpha} - \tan \alpha = \frac{1 + \sin \alpha}{|\cos \alpha|} \cdot \frac{1}{\cos \alpha} = \frac{1}{\cot \alpha} \rightarrow \frac{|\sin \alpha|}{\cos \alpha} = \frac{\sin \alpha}{\cos \alpha}$
 $\rightarrow \sin \alpha < 0$
 $\rightarrow \cos \alpha < 0$
 در ناحیه ۳ است

$(0, 115) / (2, 0) \rightarrow \text{slope} = \frac{0 - 115}{2 - 0} = -\frac{3}{4} = \tan \alpha$
 $\tan(\frac{\pi}{2} - \alpha) = \cot \alpha = -\frac{4}{3}$

$\frac{3 \cos(248^\circ) - 2 \sin(158^\circ)}{\sin(202^\circ) - \cos(292^\circ)} = \frac{3 \cos(270^\circ - 22^\circ) - 2 \sin(180^\circ - 22^\circ)}{\sin(180^\circ + 22^\circ) - \cos(270^\circ + 22^\circ)}$
 $\rightarrow \frac{-3 \sin 22^\circ - 2 \sin 22^\circ}{-\sin 22^\circ - \sin 22^\circ} = \frac{-5}{-2} = 2.5$

$\cos \alpha = \frac{2}{3}$ $\sin \alpha = \frac{\sqrt{5}}{3}$ $\tan \alpha = \frac{\sqrt{5}}{2}$ $\frac{\sin(\frac{\pi}{2} + \alpha) - \sin(\alpha - \pi)}{|\tan^2 \alpha - 1|}$



$\rightarrow \frac{\cos \alpha + \sin \alpha}{|\tan^2 \alpha - 1|} = \frac{\frac{2}{3} + \frac{\sqrt{5}}{3}}{\frac{1}{4}} = \frac{8 + 4\sqrt{5}}{3}$

$\sin^2 \alpha = 2 \cos \alpha \rightarrow \sin^2 \alpha + \cos^2 \alpha = 1 \rightarrow 4 \cos^2 \alpha + \cos^2 \alpha = 1$
 $\cos^2 \alpha = \frac{1}{5} \rightarrow \sin^2 \alpha = \frac{4}{5} \rightarrow \cos \alpha = \frac{\sqrt{5}}{5}$

3 حالات
 $\cos \alpha < 0$

$2m^2 + (m^2 - 1)y = 3 \rightarrow y = \frac{-2m^2 + 3}{m^2 - 1}$
 $\tan 60^\circ = \sqrt{3} = \frac{-2m^2 + 3}{m^2 - 1} \rightarrow \sqrt{3}m^2 + 2m - \sqrt{3} = 0 \rightarrow \frac{-2 \pm 4}{2\sqrt{3}}$
 $\frac{\sqrt{3}}{3}, -\sqrt{3}$

$\left| \frac{\sqrt{3}}{3} + \frac{3\sqrt{3}}{3} \right| = \frac{4\sqrt{3}}{3}$

$-\frac{\pi}{4} < x < \frac{\pi}{4} \rightarrow \frac{\pi}{4} > -x > -\frac{\pi}{4} \rightarrow \frac{\pi}{2} > -x + \frac{\pi}{4} > 0$

$\tan \frac{1-m}{2+m} > 0$

\tan في $0 - \frac{\pi}{2} - \mathbb{R}^+$

$m \in (-2, 1)$

$\tan 300^\circ \cos 210^\circ + \tan 480^\circ \sin 840^\circ$

$-\sqrt{3} \times -\frac{\sqrt{3}}{2} + \tan 120^\circ \times \sin 120^\circ = \frac{3}{2} - \frac{3}{2} = 0$