

نام و نام خانوادگی: محمد... کلاس: 2 کلاس... شماره تکلیف: 2 کلاس...
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$\triangle ABC$ with angles 30° and 150° .
 $\frac{x}{\sin 30^\circ} = \frac{y}{\sin 150^\circ} = \frac{5}{\sin 30^\circ}$
 $\frac{x}{\frac{1}{2}} = \frac{y}{\frac{1}{2}} = \frac{5}{\frac{1}{2}} = 10$
 $x = 5, y = 5$
 $x^2 + y^2 = 5^2 + 5^2 = 50$
 $\sqrt{50} = 5\sqrt{2}$
 $2x + 2y = 2(5) + 2(5) = 20$
 $30\sqrt{2}$

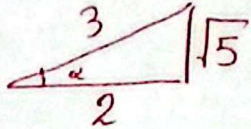
$S_{ABC} - S_{ADE} = 1/75$
 $\frac{\sin A \cdot AB \cdot AC}{2} - \frac{\sin A \cdot AE \cdot AD}{2} = 1/75$
 $\frac{\sin A}{2} (35 - 28) = 1/75$
 $\sin A = 1/15$
 $A = 30^\circ$
 $\tan A = \tan 30^\circ = \frac{\sqrt{3}}{3}$

$\frac{1}{\cos \alpha} - \tan \alpha = \frac{1 + \sin \alpha}{|\cos \alpha|} \cdot \frac{1}{\cos \alpha} = \frac{1}{\cos \alpha} \rightarrow \frac{|\sin \alpha|}{\cos \alpha} = \frac{\sin \alpha}{\cos \alpha}$
 $\sin \alpha < 0$
 $\cos \alpha < 0$
 α در ناحیه 3 است

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

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

فـ مـ اـ مـ اـ مـ اـ

$$\cos \alpha = \frac{2}{3} \quad \sin \alpha = \frac{\sqrt{5}}{3} \quad \tan \alpha = \frac{\sqrt{5}}{2}$$


$$\frac{\sin(\frac{\pi}{2} + \alpha) - \sin(\alpha - \pi)}{|\tan^2 - 1|}$$

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

$$\sin^2 \alpha = 2 \cos \alpha \rightarrow \sin^2 \alpha + \cos^2 \alpha = 1 \rightarrow 4 \cos^2 \alpha + \cos^2 \alpha = 1$$

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

3 حالات
cos α < 0

$$2m^2 + (m^2 - 1)y = 3 \rightarrow y = \frac{-2m^2 + 3}{m^2 - 1} = \frac{-2m^2 + 3}{m^2 - 1}$$

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

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

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

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

تصبيت
عكس

$$\left[\begin{array}{c} \tan \frac{1-m}{2+m} > 0 \\ \tan \frac{1-m}{2+m} < 0 \end{array} \right]$$

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

$$m \in (-2, 1)$$

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

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

$$-\sqrt{3} \times \frac{\sqrt{3}}{2}$$