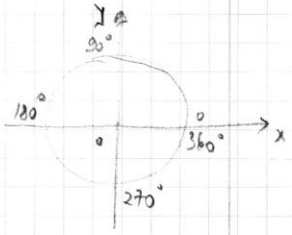
1) Упростить выраз: $\frac{\sin(-750^\circ)\cdot\cos 390^\circ\cdot tg(-1140^\circ)}{ctg(-495^\circ)\cdot\sin 1860^\circ\cdot\cos 540^\circ}$ I




$\frac{\cos 690^\circ\cdot\sin(-480^\circ)\cdot ctg\,1020^\circ}{tg\,405\cdot\sin 1425^\circ\cdot\cos(-900^\circ)}$ II

(I) $\sin(-750^\circ) = -\sin(30^\circ + 720^\circ) = -\sin 30 = -\frac{1}{2}$

$\cos 390^\circ = \cos(360^\circ + 30^\circ) = \cos 30 = \frac{\sqrt{3}}{2}$

$tg(-1140^\circ) = -tg(3\cdot 360^\circ + 60^\circ) = -tg\,60^\circ = -\sqrt{3}$

$ctg(-495^\circ) = -ctg(360^\circ + 135^\circ) = -ctg(180^\circ - 45^\circ) = -(-ctg\,45^\circ) = 1$

$\sin 1860^\circ = \sin(5\cdot 360^\circ + 60^\circ) = \sin 60 = \frac{\sqrt{3}}{2}$

$\cos 540^\circ = \cos(360^\circ + 180^\circ) = \cos 180^\circ = -1$

$\frac{\sin(-750^\circ)\cdot\cos 390^\circ\cdot tg(-1140^\circ)}{ctg\,405^\circ\cdot\sin 1860^\circ\cdot\cos 540^\circ} = \frac{-\frac{1}{2}\cdot\frac{\sqrt{3}}{2}\cdot(-\sqrt{3})}{1\cdot\frac{\sqrt{3}}{2}\cdot(-1)} = -\frac{\sqrt{3}}{2}$