$$\underbrace{\sin(\pi-\alpha)}_{\sin(\alpha)}\underbrace{\cos\left(\alpha-\frac{\pi}{2}\right)}_{+\sin\alpha} - 2\underbrace{\sin\left(\alpha-\frac{3}{2}\pi\right)}_{\cos\alpha}\underbrace{\cos(2\pi-\alpha)}_{\cos\alpha} + \left.\frac{\overbrace{\tan\left(\frac{5}{2}\pi-\alpha\right)}^{ctg(\alpha)}}{\underbrace{ctg(-\alpha)}_{}}\right] - ctg(\alpha)$$

$$\sin\left(\frac{5}{2}\pi-\alpha\right) = \sin\left(\frac{\pi}{2}-\alpha\right) = \cos\alpha \qquad\qquad \cos(-\alpha) = \cos(\alpha)$$

$$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad \sin(-\alpha) = -\sin\alpha$$
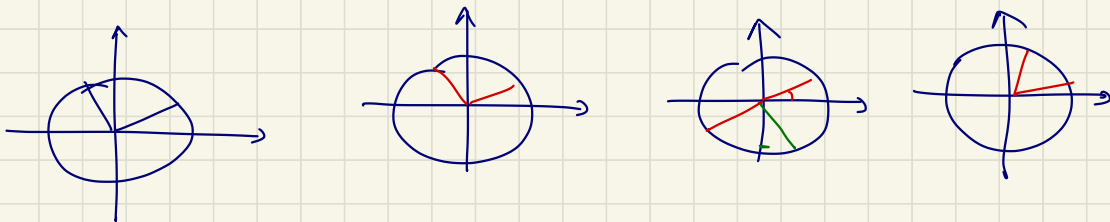
$$\cos\left(\frac{5}{2}\pi-\alpha\right) = \cos\left(\frac{\pi}{2}-\alpha\right) = \sin\alpha$$

$$\overset{\sin^2\alpha + \cos^2\alpha = 1}{}$$

$$\sin^2\alpha - 2\cos^2\alpha - 1 = -2\cos^2\alpha - (1-\sin^2\alpha)\boxed{=} -3\cos^2\alpha$$

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$$\frac{\overset{\cos(-\alpha)=\cos\alpha}{\overbrace{\cos(4\pi-\alpha)}} \cdot \overset{\cos\alpha}{\overbrace{\cos(\alpha-6\pi)}}}{\underset{-\sin\alpha}{\underbrace{\cos\left(\alpha-\frac{3}{2}\pi\right)}} \underset{-\cos\alpha}{\underbrace{\sin\left(\alpha-\frac{\pi}{2}\right)}}} + \frac{\overset{\frac{\cos\alpha}{-\sin\alpha}}{\overbrace{\tan\left(\alpha-\frac{3}{2}\pi\right)}} \overset{-\frac{\cos\alpha}{\sin\alpha}}{\overbrace{\cot(-\alpha)}}}{\underset{-\cos\alpha}{\underbrace{\cos(\alpha-3\pi)}} \underset{-\cos\alpha}{\underbrace{\sin\left(\frac{3}{2}\pi+\alpha\right)}}} - \overset{\frac{\cos\alpha}{\sin\alpha}}{\overbrace{\tan\left(\frac{\pi}{2}-\alpha\right)}}$$
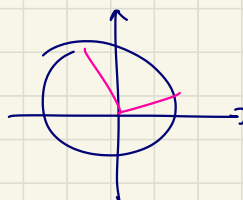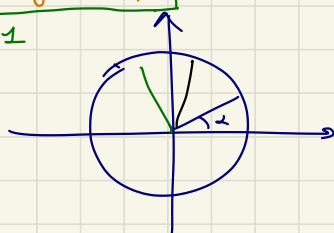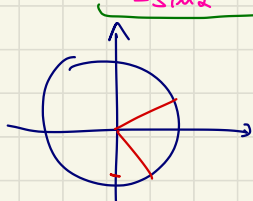

$$\frac{\cancel{\cos\alpha}}{\cancel{\sin\alpha}} + \frac{1}{\sin^2\alpha} - \frac{\cancel{\cos\alpha}}{\cancel{\sin\alpha}} = \frac{1}{\sin^2\alpha}$$

$$\frac{\overbrace{\sin\left(\alpha - \frac{\pi}{2}\right)}^{-\cos\alpha} \cdot \overbrace{\sin(-\alpha)}^{-\sin\alpha} + \overbrace{\cos\left(\frac{3}{2}\pi - \alpha\right)}^{\sin\alpha} \overbrace{\sin\left(\frac{11}{2}\pi + \alpha\right)}^{\cos\alpha} + \overbrace{\cos(3\pi + \alpha)}^{-\cos\alpha}}{- \underbrace{\underbrace{tg\left(\alpha + \frac{\pi}{2}\right)}_{\underset{-\sin\alpha}{\cos\alpha}} \underbrace{ctg\left(\alpha - \frac{3}{2}\pi\right)}_{\underset{1}{ctg\left(\alpha + \frac{\pi}{2}\right)}}} - \underbrace{\sin(\alpha + \pi)}_{-\sin\alpha} + \underbrace{\sin(7\pi - \alpha)}_{\sin\alpha}}$$

$$\frac{+\sin\alpha\cos\alpha + \sin\alpha\cos\alpha - \cos\alpha}{-1 - 2\sin\alpha} = \frac{\sin(2\alpha) - \cos\alpha}{-1 - 2\sin\alpha}$$