IF $\alpha \in (90^\circ, 180^\circ)$ simplify

$$\sqrt{\frac{1-\sin\alpha}{1+\sin\alpha}} - \sqrt{\frac{1+\sin\alpha}{1-\sin\alpha}}$$

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

$$- \sqrt{\frac{(1+\sin\alpha)(1+\sin\alpha)}{(1-\sin\alpha)(1+\sin\alpha)}}$$

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

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

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

$$= \frac{1-\sin\alpha-1-\sin\alpha}{-\cos\alpha}$$

$$= \frac{-2\sin\alpha}{-\cos\alpha}$$

$$= \tan\alpha$$

(*) For $\alpha \in (90^\circ; 180^\circ)$ we have

$$\sqrt{\cos^2\alpha} = |\cos\alpha| = -\cos\alpha$$

Since cos is negative in the 2nd quadrant