Answer on Question #70157 – Math – Trigonometry

Question

$$2\sin^2\left(\frac{3\pi}{4}\right)+2\cos^2\left(\frac{3\pi}{4}\right)-2\tan^2\left(\frac{3\pi}{4}\right)$$

Solution

The Pythagorean Identity is given by

$$\sin^2 u+\cos^2 u=1$$

We have that

$$\tan(3\pi/4)=1.$$

Then

$$2\sin^2\left(\frac{3\pi}{4}\right)+2\cos^2\left(\frac{3\pi}{4}\right)-2\tan^2\left(\frac{3\pi}{4}\right)=$$

$$=2\left(\sin^2\left(\frac{3\pi}{4}\right)+\cos^2\left(\frac{3\pi}{4}\right)\right)-2\tan^2\left(\frac{3\pi}{4}\right)=$$

$$=2\times 1-2\times 1^2=0.$$

Answer: 0.