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$$\begin{cases} x+y = \frac{\pi}{4} \\ \tan x \tan y = 3-2\sqrt{2} \end{cases}$$

$$\begin{cases} x = \frac{\pi}{4} - y \\ \tan(\frac{\pi}{4} - y) \tan y = 3-2\sqrt{2} \end{cases}$$

$$\frac{\tan \frac{\pi}{4} - \tan y}{1 + \tan \frac{\pi}{4} \tan y} \cdot \tan y = 3-2\sqrt{2}$$

$$\frac{1 - \tan y}{1 + \tan y} \cdot \tan y = 3-2\sqrt{2}$$

$$\tan y = A \quad (m)$$

$$\frac{(1-A)A}{1+A} = 3-2\sqrt{2}$$

$$A - A^2 = 3 - 2\sqrt{2} + 3A - 2\sqrt{2}A$$

$$A^2 + A(2-2\sqrt{2}) + 3-2\sqrt{2} = 0$$

$$A_{1,2} = \frac{(2-2\sqrt{2}) \pm \sqrt{4-8\sqrt{2}+8+12+8\sqrt{2}}}{2} = 1-\sqrt{2}$$

$$A = \tan y = 1-\sqrt{2} \rightarrow \begin{cases} y = \arctan(1-\sqrt{2}) + \pi k = \frac{\pi}{8} + \pi k \\ x = \frac{\pi}{4} - \pi k \end{cases}$$