

### Answer on Question # 41720 – Math – Trigonometry

$$\tan(55+x)=\cos(55-x)$$

#### Solution:

Co-Function Identities:

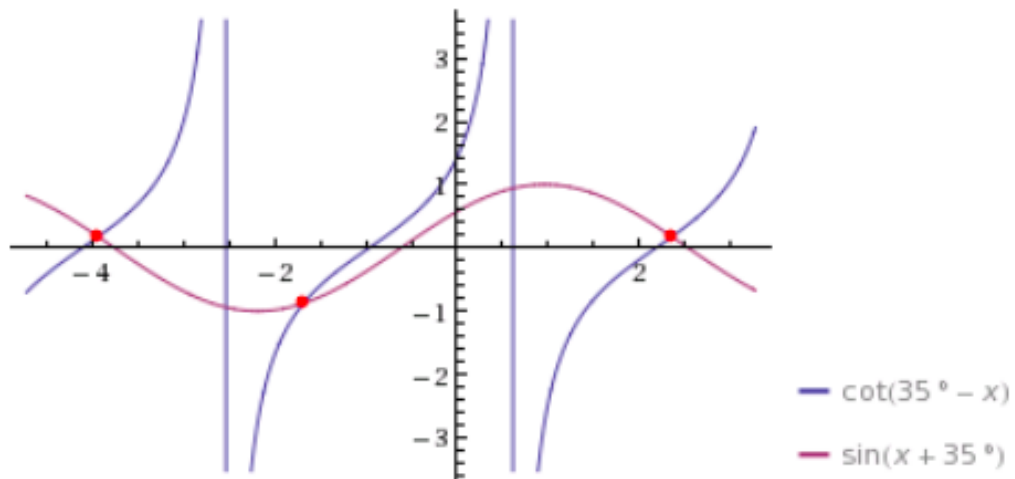
$$\sin \alpha = \cos(90^\circ - \alpha)$$

$$\cos \beta = \sin(90^\circ - \beta)$$

$$\cos(55^\circ - x) = \sin(90^\circ - (55^\circ - x)) = \sin(35^\circ + x)$$

Formula for the tangent:

$$\begin{aligned}\tan(55^\circ + x) &= \frac{\sin(55^\circ + x)}{\cos(55^\circ + x)} = \frac{\cos(90^\circ - (55^\circ + x))}{\sin(90^\circ - (55^\circ + x))} = \\ &= \frac{\cos(35^\circ - x)}{\sin(35^\circ - x)} = \cot(35^\circ - x)\end{aligned}$$



$$x \approx 2.(-0.839843 + 3.14159 n), n \in \mathbb{Z}$$

$$x \approx 2(\pi n - 1.177), n \in \mathbb{Z}$$