$$\cot(4\mathrm{A}) = \frac{1}{\cot(4\mathrm{A})}$$

First, let's multiply this equation by cot(4A), cot(4A) cannot be zero because it's in the denominator. Thus, we obtain:

$$\cot^2 4\mathrm{A} = 1, \quad \cot 4\mathrm{A} \neq 0$$

Therefore

$$\cot 4\mathrm{A} = \pm 1$$

From that, using well-known geometric formulae, we obtain that

$$4A = \frac{\pi}{4} + \frac{\pi k}{2}, \ k \in Z$$

or

$$A = \frac{\pi}{16} + \frac{\pi k}{8}, \ k \in Z$$