# Assignment 2 (ICSE Class 12 2018)

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**Problem 1** (1. iii)**.** *Solve:* $3tan^{-1}x + cot^{-1}x = \pi$.

**Solution:** The given inverse trigonometric equation is

$$3tan^{-1}x + cot^{-1}x = \pi \tag{1}$$

Also, we know the inverse trigonometric identity

$$tan^{-1}x + cot^{-1}x = \frac{\pi}{2} \tag{2}$$

Using (2) in (1), we get $2tan^{-1}x = \frac{\pi}{2}$ or $tan^{-1}x = \frac{\pi}{4}$, hence x = 1 is the only solution to the equation (This is verified in the C source file `./codes/1_3.c`).