

JEE MAIN INVERSE TRIGONOMETRIC FUNCTIONS — EQUATIONS INVOLVING INVERSE TRIGONOMETRIC FUNCTIONS — PYQS

Max. Marks: 12

Questions: 3

Section A (MCQ) — 1 question

Q.1 The number of solutions of $\tan^{-1} 4x + \tan^{-1} 6x = \frac{\pi}{6}$,

where $-\frac{1}{2\sqrt{6}} < x < \frac{1}{2\sqrt{6}}$, is equal to :

[JEE Main 2026 (Online) 22nd January Morning Shift]

- (1) 2 (2) 0 (3) 3 (4) 1

Scan or tap for the full solution



Section B (Numerical) — 2 questions

Q.2 If $k = \tan\left(\frac{\pi}{4} + \frac{1}{2}\cos^{-1}\left(\frac{2}{3}\right)\right) + \tan\left(\frac{1}{2}\sin^{-1}\left(\frac{2}{3}\right)\right)$,

then

the number of solutions of the equation $\sin^{-1}(kx - 1) = \sin^{-1}x - \cos^{-1}x$ is _____.

[JEE Main 2026 (Online) 28th January Morning Shift]

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Q.3 Let $S = \{x : \cos^{-1} x = \pi + \sin^{-1} x + \sin^{-1} (2x + 1)\}$.

Then $\sum_{x \in S} (2x - 1)^2$ is equal to _____.

[JEE Main 2025 (Online) 29th January Morning Shift]

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full solution



ANSWER KEY

Section A (MCQ) — 1 question

[illegible]

Section B (Numerical) — 2 questions

Ques.	2	3								
Ans.	1	5								