Important MCQs Questions

- 1. Which of the following is the principal value of $\sin^{-1}(1)$?
- a) π/2
- b) π/4
- c) π
- c) 0

2. The domain of the function $f(x) = \sin^{-1}(x)$ is:

- a) [-1, 1]
- b) (-∞, ∞)
- c) [0, 1]
- c) [0, π/2]
- 3. The value of $\tan^{-1}(\sqrt{3})$ is:
- a) π/4
- b) π/3
- c) π/6
- c) 2π/3

4. The value of $\cos(\sin^{-1}(1/2))$ is:

- a) √2/2
- b) √3/2
- c) 1/2

c) 2/√3

5. The range of the function $f(x) = \tan^{-1}(x)$ is:

- a) (-∞, ∞)
- b) [0, π/2)
- c) [-π/2, π/2]
- c) (-π/2, π/2)
- 6. The value of $sin(cos^{-1}(1/2))$ is:
- a) √3/2
- b) 1/√3
- c) 2/√3
- c) 1/2
- 7. The value of $\sec^{-1}(2)$ is:
- a) π/2
- b) π/3
- c) π/6
- c) 2π/3
- 8. The value of $\cos^{-1}(0)$ is:
- a) π/2
- b) π/4
- c) π
- c) 0
- 9. The principal value of $\cot^{-1}(\sqrt{3})$ is:

a) π/2

- b) π/3
- c) π/6
- c) 2π/3
- 10. The value of $\sin^{-1}(\sin(5\pi/4))$ is:
- a) 5π/4
- b) 3π/4
- c) π/4
- c) 7π/4

11. The value of the expression $sin [cot^{-1}(cos (tan^{-1}1))]$ is

- a) 0
- b) 1
- c) 1/√3
- d) $\sqrt{(2/3)}$

12. The range of $\sin^{-1}x + \cos^{-1}x + \tan^{-1}x$ is

- a) [0, π]
- b) [π/4,3π/4]
- c) (0, π)
- d) [0,π/2]

13. Find the value of sec2 $(\tan^{-1}2) + \csc^2(\cot^{-1}3)$

- a) 12
- b) 5

c) 15

d) 9

14. The value of $\cot^{-1}9 + \csc^{-1}(41\sqrt{4})$ is given by

- a) 0
- b) π/4
- c) tan-12
- d) π/2
- 15.

Find the value of $\tan^{-1}\left(\frac{\sqrt{1+x}-\sqrt{1-x}}{\sqrt{1+x}+\sqrt{1-x}}\right)$

- a) $\pi/4 + 1/2\cos^{-1}x$
- b) π/4 1/2cos⁻¹x
- c) $-\pi/4 + 1/2\cos^{-1}x$
- d) $-\pi/4 1/2\cos^{-1}x$