EXERCISE 2.1

Find the principal values of the following:

1. $\sin^{-1}\left(-\frac{1}{2}\right)$
2. $\cos^{-1}\left(\frac{\sqrt{3}}{2}\right)$
3. $\text{cosec}^{-1}(2)$
4. $\tan^{-1}(-\sqrt{3})$
5. $\cos^{-1}\left(-\frac{1}{2}\right)$
6. $\tan^{-1}(-1)$

7. $\sec^{-1}\left(\frac{2}{\sqrt{3}}\right)$ **8.** $\cot^{-1}(\sqrt{3})$ **9.** $\cos^{-1}\left(-\frac{1}{\sqrt{2}}\right)$

10. $\operatorname{cosec}^{-1}(-\sqrt{2})$

Find the values of the following:

11. $\tan^{-1}(1) + \cos^{-1}\left(-\frac{1}{2}\right) + \sin^{-1}\left(-\frac{1}{2}\right)$ **12.** $\cos^{-1}\frac{1}{2} + 2\sin^{-1}\frac{1}{2}$

13. If $\sin^{-1} x = y$, then

(A) $0 \le y \le \pi$ (B) $-\frac{\pi}{2} \le y \le \frac{\pi}{2}$

(C) $0 < y < \pi$ (D) $-\frac{\pi}{2} < y < \frac{\pi}{2}$

14. $\tan^{-1}\sqrt{3} - \sec^{-1}(-2)$ is equal to

(A) π (B) $-\frac{\pi}{3}$ (C) $\frac{\pi}{3}$ (D) $\frac{2\pi}{3}$