

Find the exact value of each expression.

1. $\sin\left(\sin^{-1}\left(\frac{1}{2}\right) + \cos^{-1}(0)\right)$

2. $\cos\left(\tan^{-1}\frac{4}{3} + \cos^{-1}\frac{5}{13}\right)$

3. $\cot\left(\sec^{-1}\left(\frac{5}{3}\right) + \frac{\pi}{6}\right)$

4. $\cos\left(2\sin^{-1}\left(\frac{3}{5}\right)\right)$

5. $\sin\left(2\sin^{-1}\left(\frac{\sqrt{3}}{2}\right)\right)$

6. $\cos^2\left(\frac{1}{2}\sin^{-1}\frac{3}{5}\right)$

7. $\csc\left(2\sin^{-1}\left(\frac{-3}{5}\right)\right)$

8. $\sin\left(\cos^{-1}\left(\frac{-\sqrt{5}}{5}\right) + \tan^{-1}\left(\frac{-1}{3}\right)\right)$