

5.3 Sum and Difference Identities*Target 6B: Prove Trigonometric Identities***Find the exact value of the expression.**

1. $\tan(195^\circ)$

2. $\sin\left(\frac{23\pi}{12}\right)$

3. $\cos\left(-\frac{5\pi}{12}\right)$

Evaluate the expression given that $\cos \alpha = \frac{4}{5}$, where $0 < \alpha < \frac{\pi}{2}$ and $\sin \beta = -\frac{5}{13}$, where $\frac{3\pi}{2} < \beta < 2\pi$.

3. $\sin(\alpha + \beta)$

4. $\tan(\alpha - \beta)$

Simplify the expression.

5. $\tan(x + \pi)$

6. $\cos\left(x - \frac{3\pi}{2}\right)$