

More Sum & Difference Identities WS

1. Using angles from the unit circle, find the EXACT value of $\cos 255^\circ$.

#2-6. Find the following given: α is in quadrant II and $\csc \alpha = \frac{13}{5}$

β is in quadrant III and $\cot \beta = \frac{4}{3}$

θ is in quadrant IV and $\sec \theta = \frac{25}{7}$

2. $\cos(\beta - \alpha)$

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

4. $\tan(\beta + \theta)$

5. $\sin\left(\theta - \frac{7\pi}{6}\right)$

6. $\cos\left(\frac{5\pi}{3} + \alpha\right)$

7. Simplify: $\sin\left(\frac{3\pi}{2} + x\right)$

#8-10. Solve each of the following equations over the interval $[0, 2\pi)$

$$8. \quad \cos\left(\frac{5\pi}{4} - x\right) = \cos\left(\frac{5\pi}{4} + x\right) - 1$$

$$9. \quad 2\cos\left(x - \frac{3\pi}{2}\right) = \cot\frac{\pi}{6}$$

$$10. \quad \sin\left(x + \frac{7\pi}{2}\right) + 5 - 5\cos x = 8\cos^2 x$$