

Pre-AP Precalculus
WS – Mixed Identity Review
Spring 2019

Name _____

Date _____ Per _____

Express the following in terms of a single trigonometric function.

1. $\frac{\tan^2 x + 1}{\sec x}$

2. $\sin^2 x(\tan x + \cot x)^2$

3. $\frac{\tan x}{1 - \cos x} - \frac{\tan x}{1 + \cos x}$

Find the exact value of the following

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

5. $\sin\frac{11\pi}{12}$

6. $\tan\frac{\pi}{12}$

7. $\sin\frac{5\pi}{8}$

8. $\cos\frac{7\pi}{8}$

9. $\tan\frac{\pi}{8}$

Given that $\sin \alpha = -\frac{15}{17}$ with $\pi \leq \alpha \leq \frac{3\pi}{2}$ and

$\cos \beta = \frac{5}{13}$ with $\frac{3\pi}{2} \leq \beta \leq 2\pi$ find:

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

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

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

Given that $\cos \theta = -\frac{7}{25}$ and $\frac{\pi}{2} \leq \theta \leq \pi$ find

13. $\sin 2\theta$

14. $\cos 2\theta$

15. $\tan 2\theta$

Given that $\csc \theta = -\frac{5}{4}$ and $\pi \leq \theta \leq \frac{3\pi}{2}$

16. $\sin\frac{\theta}{2}$

17. $\cos\frac{\theta}{2}$

18. $\tan\frac{\theta}{2}$

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____