

Day #72 Homework

Express each of the following expressions in simplest form and in terms of only $\sin x$ or $\cos x$. Show your work.

1. $\frac{\cot x}{\csc x}$

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

3. $\sec x \tan x$

4. $\frac{1 + \cot \theta}{\sin \theta + \cos \theta}$

5. $\csc \theta(1 - \cos \theta)(1 + \cos \theta)$

Express each of the following trigonometric expressions in terms of a single trigonometric ratio.

6. $\sec \alpha (\cos \alpha + \sin^2 \alpha \sec \alpha)$

7. $\csc \theta (\csc \theta + \cot \theta)$

8. $\frac{\csc \theta - \sin \theta}{\cos \theta}$

9. $\frac{\sin \theta \cos \theta}{1 - \cos^2 \theta}$

10. $\sin \beta (\cos \beta + \sin \beta \tan \beta)$

11. $\csc x(\sec x - \cos x)$

12. $\frac{\cos \theta}{1 + \sin \theta} + \tan \theta$

13. Completely simplify the following trigonometric expression: $\frac{\csc \theta}{1 + \sec \theta} - \frac{\cot \theta}{1 + \cos \theta}$.