

7.1-7.4 Extra Practice

7.1

Simplify each expression.

8. $\cos x + \sin x \tan x$

9. $\frac{\cot A}{\tan A}$

10. $\sin^2 \theta \cos^2 \theta - \cos^2 \theta$

7.2

Verify that each equation is an identity.

1. $\frac{\csc x}{\cot x + \tan x} = \cos x$

2. $\frac{1}{\sin y - 1} - \frac{1}{\sin y + 1} = -2 \sec^2 y$

3. $\sin^3 x - \cos^3 x = (1 + \sin x \cos x)(\sin x - \cos x)$

7.3

Use sum or difference identities to find the exact value of each trigonometric function.

1. $\cos \frac{5\pi}{12}$

2. $\sin(-165^\circ)$

3. $\tan 345^\circ$

Find each exact value Draw triangles & use SOH-CAH-TOA

7. $\cos(x + y)$ if $\sin x = \frac{5}{13}$ and $\sin y = \frac{4}{5}$

8. $\sin(x - y)$ if $\cos x = \frac{8}{17}$ and $\cos y = \frac{3}{5}$

9. $\tan(x - y)$ if $\csc x = \frac{13}{5}$ and $\cot y = \frac{4}{3}$

7.4

Use the given information to find $\sin 2\theta$, $\cos 2\theta$, and $\tan 2\theta$.

4. $\sin \theta = \frac{12}{13}$

5. $\tan \theta = \frac{1}{2}$

6. $\sec \theta = -\frac{5}{2}$

7. $\sin \theta = \frac{3}{5}$

Verify that each equation is an identity.

9. $\cos x \sin x = \frac{\sin 2x}{2}$