

Trigonometry Worksheet 5

Use the following information for questions 1-6. Angles α and β are the two acute angles in a right triangle.

1. How are $\sin \alpha$ and $\cos \beta$ related?

6. Simplify $\frac{\sin \alpha}{\sin \beta} \times \frac{\cos \beta}{\cos \alpha}$.

7. Simplify $\frac{\cos^4 \alpha - \sin^4 \alpha}{2 \cos^2 \alpha - 1}$

2. How are $\tan \alpha$ and $\cot \beta$ related?

8. Simplify (but do not solve) $\sin 72^\circ + \cos 18^\circ$.

3. How are $\sec \alpha$ and $\csc \beta$ related?

4. Simplify $\frac{\sin \alpha + \cos \beta}{\cos \alpha}$.

9. Simplify $\frac{\tan 20^\circ + \cot 70^\circ}{\tan 20^\circ}$.

5. Simplify $\frac{\cos \alpha}{\cos \alpha + \cos \beta}$.

10. Find m if $\sin(18m - 12) = \cos(7m + 2)$.