

Exam 3 Study Guide

Name _____

Answer the questions in the spaces provided. Feel free to use another piece of paper for your work

1. Prove the following:

Hint: $\tan\left(\frac{\pi}{2}\right)$ is undefined. So we can't use one of the identities.

(a) $\tan\left(\frac{\pi}{2} - u\right) = \cot(u)$

2. Rewrite the following terms using the Sum and Difference or Double-Angle Formulas:

(a) $\sin\left(\frac{\pi}{12}\right)\cos\left(\frac{5\pi}{12}\right) + \sin\left(\frac{5\pi}{12}\right)\cos\left(\frac{\pi}{12}\right)$

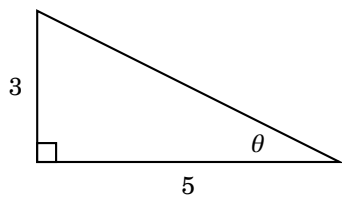
$2\sin(15^\circ)\cos(15^\circ)$

3. Solve for u :

Hint: $\tan\left(\frac{u}{2}\right) = \frac{\sin(u)}{1+\cos(u)}$

(a) $\tan\left(\frac{u}{2}\right)(1 + \cos(u)) = \frac{\sqrt{3}}{2}$

4. Given the following triangle find: $\cos(2\theta)$
Hint: you do not have to find θ



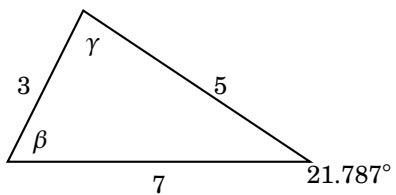
5. Solve using the product-to-sum formula:

(a) $\sin(7\theta)\sin(2\theta)$

$4\cos(2\theta)\cos(4\theta)$

6. Given the following triangle find:

β , γ , and the area of the triangle



7. Given the following triangle find:

a , b , and the area of the triangle

