5.4 Homework Name _____

Write as the function of one angle. Simplify, if possible, without using a calculator.

1. $1 - 2\sin^2(15°)$

2. $2\sin\left(\frac{\pi}{8}\right)\cos\left(\frac{\pi}{8}\right)$

If $\sin A = \frac{3}{5}$ and A is in the first quadrant, find each value.

3. $\cos(2A)$

4. $\tan(2A)$

5. $\sin(2A)$

If $\tan y = \frac{5}{12}$ and y is in the third quadrant, find each value.

6. $\sin(2y)$

7. $\tan(2y)$

8. $\cos(2y)$

Verify that each of the following is an identity.

9. $\sin 2A = \dfrac{2\tan A}{1+\tan^2 A}$

10. $\sin(2x) = 2\cot(x)\sin^2(x)$

11. $\cot x = \dfrac{\sin 2x}{1-\cos 2x}$

12. $\sin(2x)\,(\cot(x) + \tan(x)) = 2$

13. $\csc(x)\sec(x) = 2\csc(2x)$