

Name \_\_\_\_\_ Score \_\_\_\_\_/10

**Please Print Clearly****Calculators are NOT permitted.**

Complete each of the following identities.

1.  $\sin(x - y) = \sin(x) \cos(y) - \sin(y) \cos(x)$

2.  $\sin(x + y) = \sin(x) \cos(y) + \sin(y) \cos(x)$

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

4.  $\cos(x + y) = \cos(x) \cos(y) - \sin(x) \sin(y)$

5.  $\tan(x + y) = \frac{\tan(x) + \tan(y)}{1 - \tan(x) \tan(y)}$

6.  $\sin(2x) = 2\sin(x) \cos(x)$

7.  $\cos(2x) = \cos^2(x) - \sin^2(x)$

8.  $\tan(2x) = \frac{2 \tan(x)}{1 - \tan^2(x)}$

9.  $\cos\left(\frac{\pi}{2} - x\right) = \sin(x)$

10.  $\tan\left(\frac{\pi}{2} - x\right) = \cot(x)$