**Precalculus Lesson 5.5**

**Double Angle and Half-Angle Formulas Practice Worksheet**

**Given and 90°**  **180 °, find the exact value of each expression.**

**1.** cos **2.** sin **3.** tan

**4.** sec **5.** csc **6.** cot

**Given and 180°**  **270**°**, find the exact value of each expression.**

**7.** sin **8.** cos **9.** cot

**10.** tan **11.** csc **12.** sec

**Use a sum or difference formula to verify each identity.**

**13.** cos 2*θ* = cos2 *θ* - sin2 *θ* **14.** cos 2*θ* = 2 cos2 *θ* - 1

**Use a double-angle identity to find the exact value of each expression.**

**15.** sin **16.** tan 600° **17.** sin 660°

**18.** cos 660° **19.** tan **20.** cos

**21.** tan 660° **22.** sin **23.** tan

**Use a half-angle identity to find the exact value of each expression.**

**24.** cos **25.** cos 7.5° **26.** tan 7.5°

**27.** sin 7.5° **28.** cos **29.** tan

**30.** cos 22.5° **31.** sin **32.** cos