

Warm Up 3/7**Lesson 7-3: Double-Angle, and Half-Angle Formulas II****Objectives**

Students will...

- Be able to apply the Double-Angle and Half-Angle formulas to verify identities.

Guidelines for Proving Identities

1. Always look for opportunities to use the Sum-to-Product formulas, before applying the Double-Angle formulas.
2. When either can be used, it's **usually** best to use the Double-Angle formulas, rather than the Half-Angle formulas. Half-Angle formulas are rarely used when proving identities.
3. With regards to the Double-Angle formulas, always look for multiples of 2. When whole numbers are doubled, they are always even (i.e. multiples of 2!).

Example

Prove the identity: $\frac{\sin 3x}{\sin x \cos x} = 4 \cos x - \sec x$