Name_____

TRIGONOMETRY JOURNAL
IDENTITIES

1. The purpose of trig identities is to _____

   _____.

2. Determine whether each of the following statements is mathematically correct (C) or incorrect (I). Explain the error in all incorrect statements.

   a) $2\sin^2 x - 1 = \cos 2x$ C I _____

   b) $1 + \cot x = \csc x$ C I _____

   c) $\tan\frac{x}{2} = \frac{1-\cos x}{\sin x}$ C I _____

   d) $\cot = \frac{\cos}{\sin}$ C I _____

   e) $\tan(x - y) = \tan x - \tan y$ C I _____

   f) $\tan x \cot x = 1$ C I _____

3. List three tips you consider important for verifying identities.

   a) _____

   _____

   b) _____

   _____

   c) _____

   _____

4. When verifying identities, you know when to use a sum and difference identity when _____

   _____.

5. List two methods for determining which of the three cos 2x identities to use.

   a) _____

   b) _____

6. The additional step you must perform in finding the value of $\sin\frac{\theta}{2}$ or $\cos\frac{\theta}{2}$ is _____

   by _____.

7. The purpose of the sum and product identities is _____

   _____.

8. Attach a spare copy of the identity sheet to this journal or list all of the identities studied.

9. Identify the 5 mistakes in the proof of the identity below.

$$\cos 3x = 2\sin x \sec x + \tan x \sin x$$

$$\cos(2x + x) = 2\sin x \cdot \frac{1}{\cos x} + \frac{\cos x}{\sin x} \cdot \sin x$$

$$\cos 2x \cos x + \sin 2x \sin x = \frac{2\sin x}{\cos x} + \cos x$$

$$(\cos^2 x + \sin^2 x)\cos x + (2\sin x \cos x)\sin x = \frac{2\sin x + \cos^2 x}{\cos x}$$

$$1 \cdot \cos x + 2\sin^2 x \cos x = 2\sin x + \cos x$$

$$\cos x + 2\sin^2 x \cdot \frac{1}{\sin x} =$$

$$\cos x + 2\sin x = 2\sin x + \cos x$$