

## Section 9.2 Trig Identities

Reduce to a single term. Select from the list shown. Some are used more than once.

1.  $\frac{\cos^2 \theta}{\sin \theta} + \frac{1}{\csc \theta}$

2.  $\frac{\sin^3 \theta}{\cos \theta} + \sin \theta \cos \theta$

3.  $\frac{1 + \cot \theta}{1 + \tan \theta}$

4.  $\sin \theta \sec \theta$

5.  $\frac{\sec \theta}{\csc \theta}$

6.  $\csc \theta \tan \theta$

7.  $\tan \theta \sin \theta + \cos \theta$

8.  $\frac{\sin \theta}{1 - \cos \theta} - \frac{\sin \theta}{1 + \cos \theta}$

9.  $\frac{1 - \cos \theta}{\sec \theta - 1}$

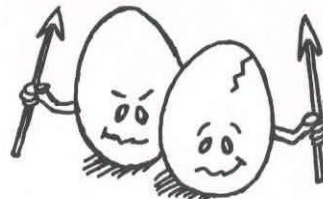
10.  $\sin \theta + \frac{\cot^2 \theta}{\csc \theta}$

11.  $\frac{1}{1 - \cos \theta} + \frac{1}{1 + \cos \theta}$

- A.  $\sin \theta$
- B.  $\cos \theta$
- C.  $\tan \theta$
- D.  $\csc \theta$
- E.  $\sec \theta$
- F.  $\cot \theta$
- G.  $2 \cot \theta$
- H.  $2 \sec \theta$
- I.  $2 \csc \theta$
- J.  $2 \tan \theta$
- K.  $2 \cos \theta$
- L.  $2 \sin \theta$
- M.  $2 \csc^2 \theta$
- N.  $2 \cot^2 \theta$

After you have found the correct simplified expression for each of the above, cross out the box that contains it. (You can click on the box on this document and it will cross out the box. Click on the box once more to undo it.) Some are used multiple times. When you finish, type the letters from the remaining boxes in the 14 spaces at the bottom of the page to answer this question:

**What Were the Headlines After an Alchemist  
Trained Two Eggs  
to Attack a Candy Store  
With Sharp Sticks?**



TW $\sec \theta$	EG $2 \sec \theta$	OS $\cos \theta$	GS $2 \cos \theta$	WE $\tan \theta$	ET $\cot \theta$	SP $2 \csc^2 \theta$
EA $2 \tan \theta$	TS $2 \cot \theta$	RA $2 \csc \theta$	TI $\csc \theta$	MI $2 \cot^2 \theta$	SS $2 \csc^2 \theta$	NT $2 \sin \theta$