

Using Trig Identities to Transform an Equation Practice Problems

Use trigonometric identities to transform the left side of the equation to the right side. (You want both sides to be equivalent)

- 1) $\sin \theta \csc \theta = 1$
- 2) $\sec \theta \cos \theta = 1$
- 3) $\cot \theta \tan \theta = 1$
- 4) $\tan \theta \cos \theta = \sin \theta$
- 5) $\cot \theta \sin \theta = \cos \theta$
- 6) $\sin \theta \sec \theta = \tan \theta$
- 7) $\csc \theta \cos \theta = \cot \theta$

Using Trig Identities to Transform an Equation Practice Problems Answers

Methods may vary. There are various ways to attack these problems. Here are some options of trig identities you could use for each to transform the equation.

1) Use the identity $\frac{1}{\sin\theta} = \csc\theta$ OR $\frac{1}{\csc\theta} = \sin\theta$

2) Use the identity $\frac{1}{\sec\theta} = \cos\theta$ OR $\frac{1}{\cos\theta} = \sec\theta$

3) Use the identity $\frac{1}{\cot\theta} = \tan\theta$ OR $\frac{1}{\tan\theta} = \cot\theta$

4) $\tan\theta = \frac{\sin\theta}{\cos\theta}$

5) $\cot\theta = \frac{\cos\theta}{\sin\theta}$

6) $\sec\theta = \frac{1}{\cos\theta}$ together with $\tan\theta = \frac{\sin\theta}{\cos\theta}$

7) $\csc\theta = \frac{1}{\sin\theta}$ together with $\cot\theta = \frac{\cos\theta}{\sin\theta}$