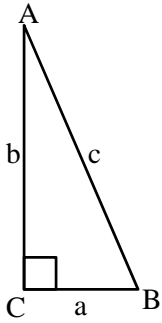


1. Prove: $\sin^2 A + \cos^2 A = 1$



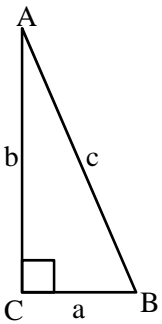
2. Given: $\sin^2 \theta + \cos^2 \theta = 1$
Prove: $1 + \cot^2 \theta = \csc^2 \theta$

3. In each example: (a) tell whether or not the expression is true; (b) If false, state correctly

1. $\sin^2 \theta = \cos^2 \theta - 1$
2. $\tan^2 \theta - \sec^2 \theta = -1$
3. $\csc^2 \theta - \cot^2 \theta = 1$

4. Simplify: $\frac{1 - \sin^2 \theta}{1 - \cos^2 \theta}$

5. Prove: $\sec^2 B - \tan^2 B = 1$



6. Given: $\sin^2 \theta + \cos^2 \theta = 1$
Prove: $1 + \tan^2 \theta = \sec^2 \theta$

7. In each example: (a) tell whether or not the expression is true; (b) If false, state correctly

1. $\sin^2 \theta = 1 - \cos^2 \theta$
2. $1 + \sec^2 \theta = \tan^2 \theta$
3. $1 - \csc^2 \theta = \cot^2 \theta$

8. Simplify: $(1 + \tan^2 \theta) \cot^2 \theta$

9. Prove: $1 + \cot^2 A = \csc^2 A$

