**CLASS X**

**MATHEMATICS**

**Introduction to Trigonometry**

**Worksheet (Module 3/3)**

**Prove the following identities:**

**1. (Sec2 θ – 1) (Cosec2 θ – 1) = 1
Solution**:


2.

**Solution: Taking L.H.S**

3.

**Solution: Taking L.H.S**


**Prove the following trigonometric identities:**

**1. (1 – cos2 A) cosec2 A = 1**

**2. (1 + cot2 A) sin2 A = 1**

**3. cosec θ √(1 – cos2 θ) = 1**

**4.**  **tan θ + 1/ tan θ = sec θ cosec θ**

**5.  sin2A + 1/(1 + tan 2A) = 1**

**6.** **(1 – sin θ) / (1 + sin θ) = (sec θ – tan θ)2**

**7. tan2θ − sin2θ = tan2θ sin2θ**

**8.  (sec θ + cos θ) (sec θ – cos θ) = tan2θ + sin2θ**

**9. (cos2 θ/ sin θ) – cosec θ + sin θ = 0**

**10. Show that**