

**9.4 Trigonometric Identities 2019-20**

**Prove the identities, using opposite, adjacent and hypotenuse.**

1.  $\csc x = \frac{1}{\sin x}$

2.  $\cot x = \frac{1}{\tan x}$

3.  $\cot \theta = \frac{\cos \theta}{\sin \theta}$

**Write each expression in terms of sines and/or cosines, then simplify.**

4.  $\sin x \cdot \sec x$

5.  $\frac{\csc x}{\cot x}$

6.  $\tan x \cdot \csc x \cdot \cos x$

**Prove the trigonometric identities.**

7.  $\sec x \cot x = \csc x$

8.  $\sin x \sec x = \tan x$

9.  $-\tan x \cos x = -\sin x$

9.  $\csc x \sin x = \cot x \tan x$