

Ex 15A

Prove the following identities

$$1. \quad \sec A + \tan A = \frac{1 + \sin A}{\cos A}$$

$$2. \quad \tan A + \cot A = \sec A \operatorname{cosec} A$$

$$3. \quad \sec^2 \theta + \operatorname{cosec}^2 \theta = \sec^2 \theta \operatorname{cosec}^2 \theta$$

$$4. \quad \frac{\operatorname{cosec} \theta - \cot \theta}{1 - \cos \theta} = \operatorname{cosec} \theta$$

$$5. \quad \operatorname{cosec} x - \sin x = \cos x \cot x$$

$$6. \quad 1 + \cos^4 x - \sin^4 x = 2 \cos^2 x$$

$$7. \quad \sec \theta + \tan \theta = \frac{\cos \theta}{1 - \sin \theta}$$

$$8. \quad \frac{\sin A \tan A}{1 - \cos A} = 1 + \sec A$$