

NCERT Maths Solutions by Dev Anoop (Bathinda) Ex 8.4

① i) $\sin A$

$$= \sqrt{\sin^2 A}$$

$$= \sqrt{\frac{1}{\operatorname{cosec}^2 A}}$$

$$= \sqrt{\frac{1}{1 + \cot^2 A}}$$

② $\sec A$

$$= \sqrt{\sec^2 A}$$

$$= \sqrt{1 + \tan^2 A}$$

$$= \sqrt{1 + \frac{1}{\cot^2 A}}$$

$$= \sqrt{\frac{1 + \cot^2 A}{\cot^2 A}}$$

③ $\tan A$

$$= \frac{1}{\cot A}$$

2 ④ $\tan A$

$$= \sqrt{\tan^2 A}$$

$$= \sqrt{\sec^2 A - 1}$$

② i) $\sin A$

$$= \sqrt{\sin^2 A}$$

$$= \sqrt{1 - \cos^2 A}$$

$$= \sqrt{1 - \frac{1}{\sec^2 A}}$$

$$= \sqrt{\frac{\sec^2 A - 1}{\sec^2 A}}$$

② $\cos A$

$$= \frac{1}{\sec A}$$

③ $\operatorname{cosec} A$

$$= \sqrt{\operatorname{cosec}^2 A}$$

$$= \sqrt{\frac{1}{\sin^2 A}}$$

$$= \sqrt{\frac{1}{1 - \cos^2 A}}$$

$$= \sqrt{\frac{1}{1 - \frac{1}{\sec^2 A}}}$$

$$= \sqrt{\frac{\sec^2 A}{\sec^2 A - 1}}$$

④ $\cot A$

$$= \frac{1}{\tan A}$$

$$= \frac{1}{\sqrt{\tan^2 A}}$$

$$= \frac{1}{\sqrt{\sec^2 A - 1}}$$