

Class – IX

Topic – Complementary Angles

1. Evaluate: $\left(\frac{\cos 47^\circ}{\sin 43^\circ}\right)^2 + \left(\frac{\sin 72^\circ}{\cos 18^\circ}\right)^2 - 2\cos^2 45^\circ$
2. Evaluate: $\operatorname{cosec} 82^\circ - \sec 8^\circ$
3. Evaluate: $\sec 70^\circ \sin 20^\circ + \operatorname{cosec} 70^\circ \cos 20^\circ$
4. For Triangle ABC, prove that: $\sec\left(\frac{A+B}{2}\right) = \operatorname{cosec}\left(\frac{C}{2}\right)$
5. If $\cos 38^\circ \sec(90 - 2A) = 1$ find the value of angle A.
6. Evaluate: $3 \frac{\sin 72^\circ}{\cos 18^\circ} - \frac{\sec 32^\circ}{\operatorname{Cosec} 58^\circ}$
7. Show that : $\tan 10^\circ \tan 15^\circ \tan 75^\circ \tan 80^\circ = 1$
8. Evaluate: $\sin^2 35^\circ - \cos^2 55^\circ$.
9. Evaluate: $\frac{\cos 70^\circ}{\sin 20^\circ} + \frac{\cos 59^\circ}{\sin 31^\circ} - 8 \sin^2 30^\circ$
10. Find the value of angle a, where $0^\circ \leq A \leq 90^\circ$: $\cos(90^\circ - A) \cdot \sec 77^\circ = 1$

Answer

- | | |
|---------------|-------------|
| 1. 1 | 2. 0. |
| 3. 2. | 4. Proving |
| 5. 26° | 6. 2. |
| 7. Proving | 8. 0 |
| 9. 0. | 10. Proving |