

# Class 10 Mathematics - Introduction to Trigonometry

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Advanced Worksheet 2

### Questions

1. Prove that  $\sin^2 A + \cos^2 A = 1$  for  $A = 30^\circ$ .
2. Verify that  $\sec^2 45^\circ - \tan^2 45^\circ = 1$ .
3. Verify that  $\operatorname{cosec}^2 60^\circ - \cot^2 60^\circ = 1$ .
4. Evaluate  $(\sin 30^\circ + \cos 60^\circ)^2$ .
5. Evaluate  $(\tan 45^\circ + \cot 45^\circ)^2$ .
6. Evaluate  $\sec^2 60^\circ + \operatorname{cosec}^2 30^\circ$ .

### Answer Key

1.  $(1/2)^2 + (\sqrt{3}/2)^2 = 1/4 + 3/4 = 1$
2.  $2 - 1 = 1$
3.  $(4/3) - (1/3) = 1$
4. 1
5. 4
6. 8