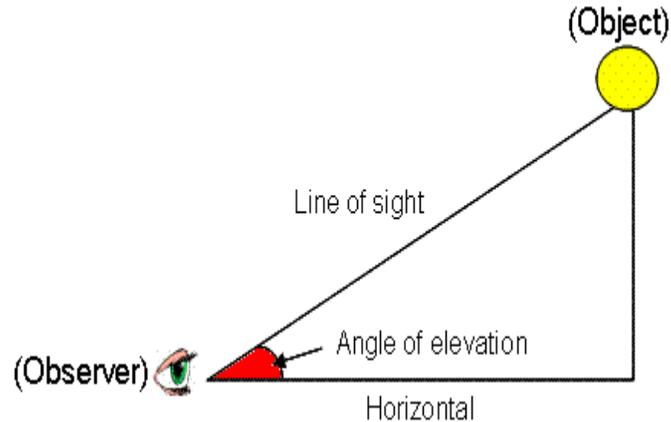


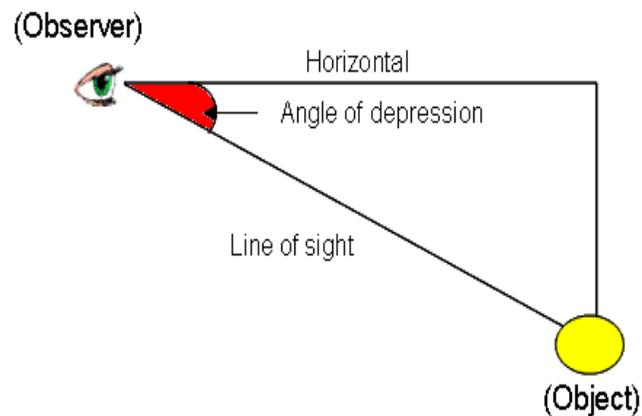
# Heights and Distances

## Important Concepts

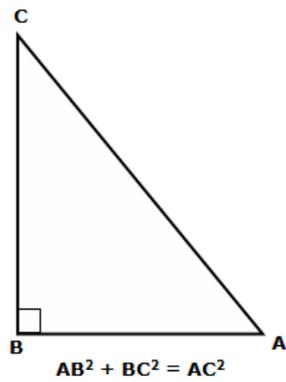
1. The line of sight is the line drawn from the eye of an observer to the point in the object viewed by the observer.
2. The angle of elevation of an object viewed is the angle formed by the line of sight with the horizontal when it is above the horizontal level, i.e., the case when we raise our head to look at the object.



3. The angle of depression of an object viewed is the angle formed by the line of sight with the horizontal when it is below the horizontal level, i.e., the case when we lower our head to look at the object



4. Pythagoras theorem: In a right triangle, square of the hypotenuse is equal to the sum of the square of the other two sides.



5. Angle measured in anticlockwise direction is taken as positive angle.

6. Angle measured in clockwise direction is taken as negative angle.

7. Some standard values of trigonometric ratios:

	$\sin \theta$	$\cos \theta$	$\tan \theta$
$0^\circ$	0	1	0
$30^\circ$	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{3}}$
$45^\circ$	$\frac{1}{\sqrt{2}}$	$\frac{1}{\sqrt{2}}$	1
$60^\circ$	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\sqrt{3}$
$90^\circ$	1	0	$\infty$