

## Trigonometry

### Angles Of Elevation and Depression

Example 1: An electricity pylon stands on horizontal ground. At a point 80m from the base of the pylon, the angle of elevation of the top of the pylon is  $23^\circ$ . Calculate the height of the pylon to the nearest metre.

Example 2: A surveyor measures the angle of elevation of the top of a building as  $19^\circ$ . She moves 120m nearer the building and finds the angle of elevation is now  $47^\circ$ . Determine the height of the building.

Example 3: The angle of depression of a ship viewed from the top of a vertical cliff 75m high is  $30^\circ$ . Find the distance of the ship from the base of the cliff at this time. The ship is sailing away from the cliff at a constant speed and 1 minute later its angle of depression from the top of the cliff is  $20^\circ$ . Find the speed of the ship in km/h.