

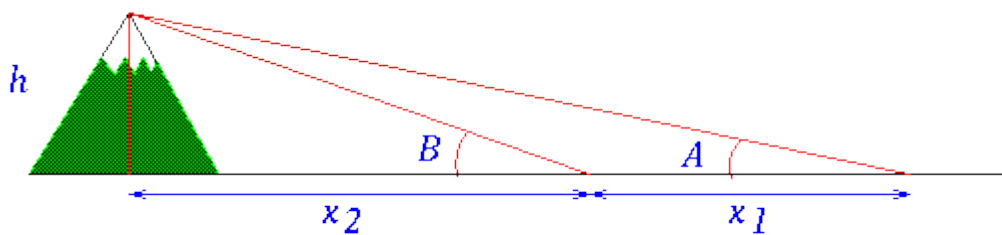
# MATHEMATICS

## Level Two

### Heights and Sights

You set up a Theodolite and sight to a mountain from two places. The first angle (A) is measured at  $13^\circ$  and the second angle (B) is measured at  $16.5^\circ$  1km closer to the mountain.

1) What is the height of the mountain?



HINT: From your measurements, you know A, B and  $x_1$ . You want to determine  $h$ .

#### Question B

Assuming nothing else blocks their view, how far can two 2.2m tall people walk from each other until they can no longer see each other due to the curvature of the Earth? (The radius of the Earth is 6374km)

