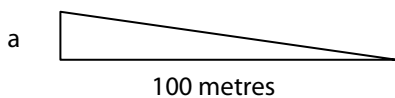


Mathematics Department Workshops

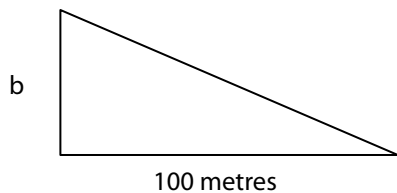
Topic: Trigonometry

Resource Sheet HT2.TRG.4

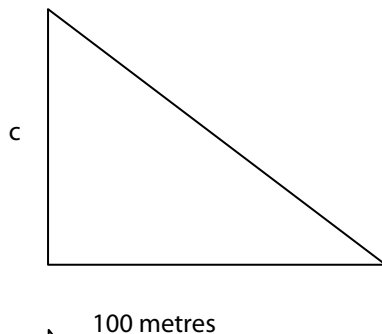
The use of the clinometer in surveying depends on the accuracy of measuring the angle. The behaviour of the tangent ratio is not linear, so what effect would there be on the accuracy of estimated measurements for different sizes of angle? Assume the accuracy in measuring the angle of elevation is to the nearest 0.1° using the clinometer and that the 100 metres is exactly correct.



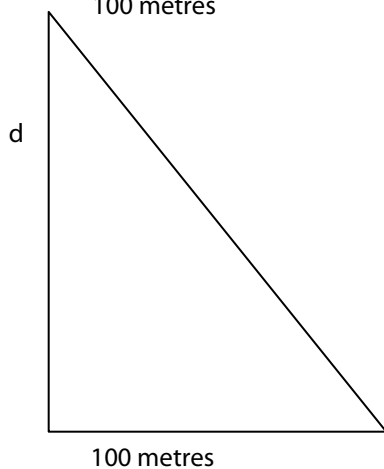
If the angle of elevation is 3° find the value of a.
Find the maximum error in the calculation of a.



Here the angle of elevation is 32° find the maximum error in the calculation of b.



Here the angle of elevation is 44° find the maximum error in the calculation of c.



Here the angle of elevation is 67° find the maximum error in the calculation of d.

What do you think would happen if you took larger and larger angles of elevation?