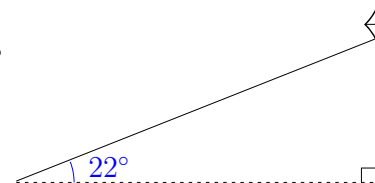


# Exam Style - Triangles & Trigonometry



Note: Diagrams are not to scale!

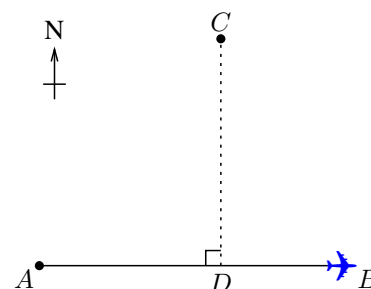
- i. When a kite is flying, the string makes an angle of  $22^\circ$  with the horizontal and the string is 200m long. How high is the kite?



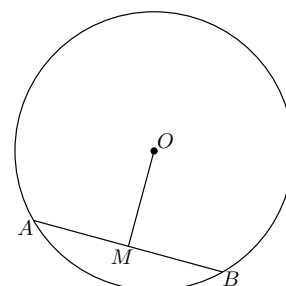
- ii. A man walks 10km North-West and then 7km South-East. How far is he from his starting point? On what bearing must he know walk to go directly back to his start point?

- iii. A plane flies due East from city  $A$  to city  $B$ .  $C$  is another city 80km from  $A$  on a bearing of  $038^\circ$ .

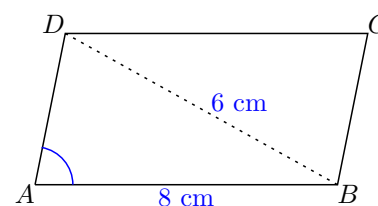
- Find the distance of the plane from  $C$  when it is at  $D$ , the nearest point to  $C$ .
- Find the distance of the plane from  $C$  when it is at  $B$ , where  $AB = 80$ km.



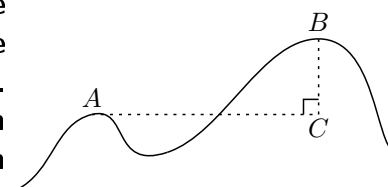
- iv.  $AB$  is a chord of length 10cm.  $O$  is the centre of a circle with radius 13cm.  $M$  is the midpoint of  $AB$ . Find the distance  $OM$ .



- v. Find the size of the angle  $A$  in this rhombus.



- vi.  $A$  and  $B$  are points on two mountain peaks. The distance between  $A$  and  $B$  on a map is 12cm. The scale of the map is 1:50,000. Find the horizontal distance  $AC$ , in km. The heights of  $A$  and  $B$  are given as 2900m and 3650m respectively. Calculate the angle of elevation of  $B$  from  $A$ .



- vii.  $AB$ , which is 18cm long, is 2cm from the centre of the circle,  $O$ . How long is the chord  $DC$ , which is 6cm from  $O$ ?

