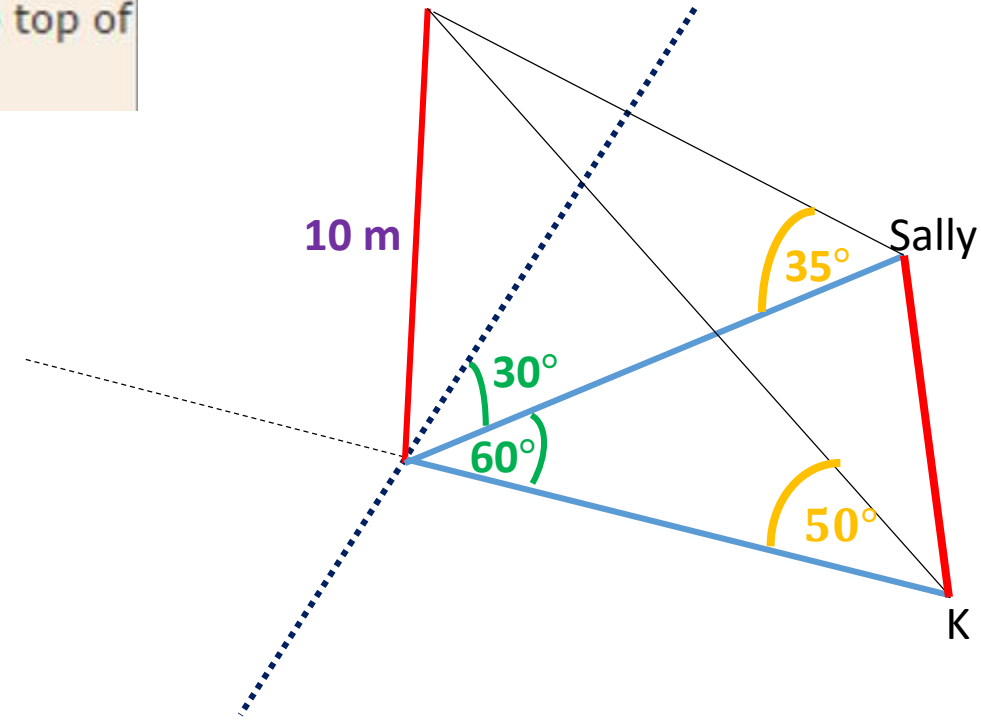


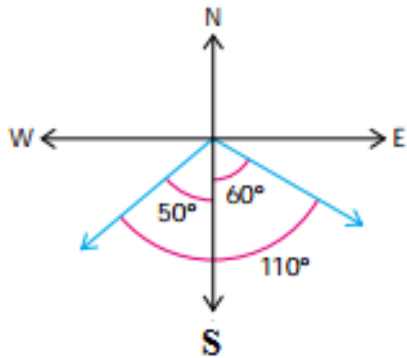
Sally and Kate stand some distance away from a building (B) which is 10m high. Sally is on a bearing of  $030^\circ$  from the building. From where she is standing, the angle of elevation of the top of the building is  $35^\circ$ . Kate is on a bearing of  $090^\circ$  from the building. From where she is standing, the angle of elevation of the top of the building is  $50^\circ$ .

Calculate, in metres correct to one decimal place, the distance between Sally and Kate.

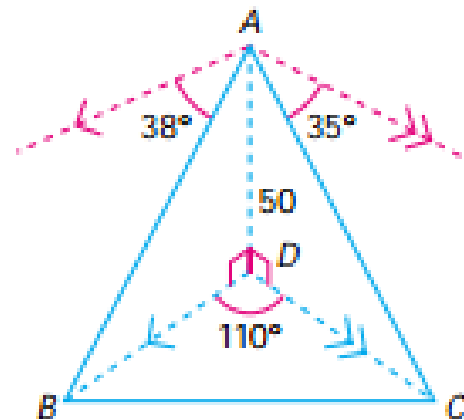


From the top of a 50 m high bridge, two boats are seen at anchor. One boat has a bearing of  $230^\circ$  and has an angle of depression of  $38^\circ$ . The other boat is on a bearing of  $120^\circ$  and has an angle of depression of  $35^\circ$ . How far apart are the boats? Give your answer correct to the nearest metre.

**First sketch the information in the horizontal plane**



**Now sketch the information in the vertical plane, using the ground level diagram to assist.**



The Great Pyramid at Giza in Egypt has a square base with sides of 232.6 m long. The distance from the top of the pyramid to each corner of the base was originally 221.2 m.

- (a) Determine the angle each face makes with the base.
- (b) Determine the size of the apex angle of a face of the pyramid. (that is,  $\angle AEB$ )
- (c) Determine the angle that a sloping edge makes with the base.

