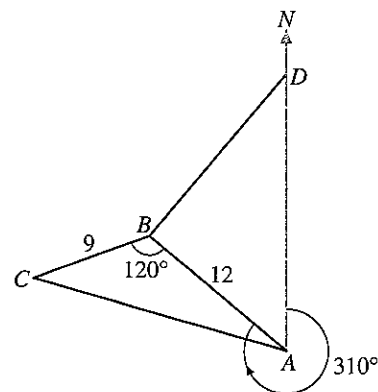
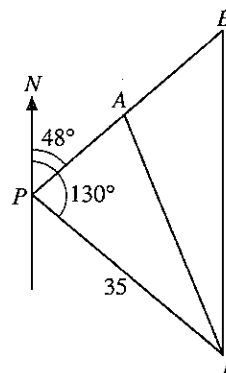


15. In the diagram, A , B , C and D represent the positions of 4 towns. $AB = 12$ km, $BC = 9$ km and $\angle ABC = 120^\circ$. D is due North of A . The bearings of B from A and D are 310° and 220° respectively. Find
- the distance AC ,
 - the bearing of C from A ,
 - the distance BD ,
 - the shortest distance from B to a road running along AD .



16. In the diagram, a lighthouse L is 35 km from a port P on a bearing of 130° . A ship left the port at noon. It sailed at 8 km/h on a bearing of 048° . It reached the point A at 2 p.m.
- Find the distance AL .
 - Find the bearing of A from L .
 - The ship continued its course and reached the point B , which is due North of L .
 - Find the distance BL .
 - Find the distance AB .
 - When did the ship reach B ?



17.

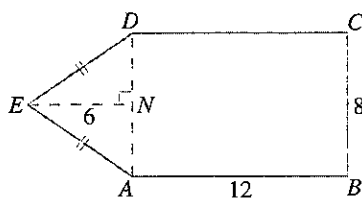


Diagram I

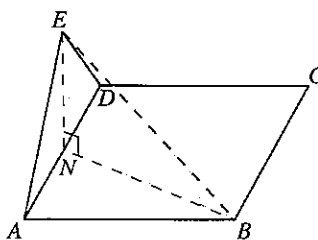


Diagram II

Diagram I shows a piece of paper $ABCDE$ such that $ABCD$ is a rectangle, $AB = 12$ cm, $BC = 8$ cm, $EN = 6$ cm and $AE = DE$. The triangle ADE is folded up along AD so that it becomes perpendicular to the base $ABCD$ (refer to Diagram II). Find

- $\angle AED$,
- the length of AE ,
- the distance BN ,
- the distance BE in Diagram II,
- $\angle EBN$ in Diagram II.