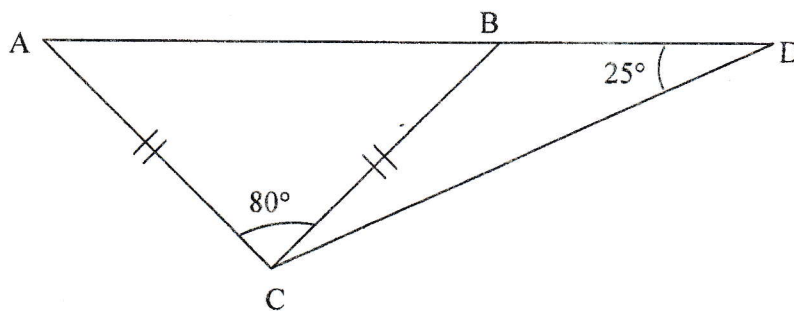


9. A , B and C are three points on horizontal ground. B is due east of A and C is on a bearing of 210° from A . A vertical tower AT stands at A and the angle of elevation of the top of the tower T from B is 5.8° . On a map with scale of $1 : 50\,000$, $AB = 5$ cm and $AC = 6$ cm. Calculate
- the height of the tower,
 - the actual distance between B and C , in km,
 - the bearing of B from C ,
 - the angle of depression of C from T .

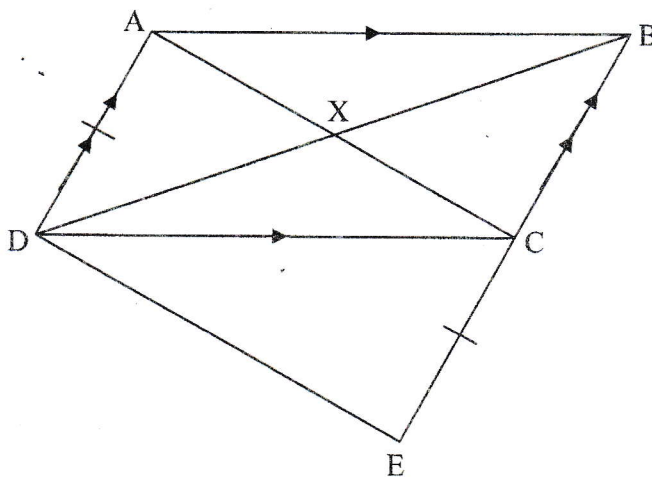
Geometry

1



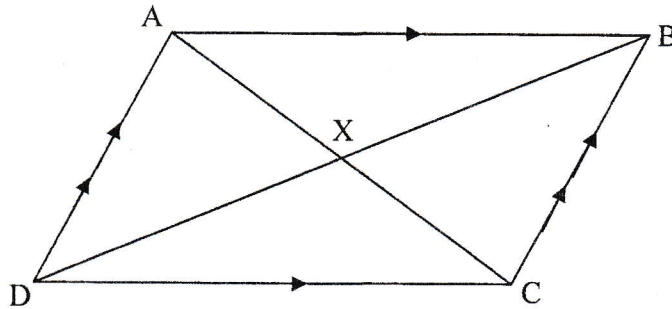
In the figure, ABD is a straight line. Prove that $AC=BD$.

2



In the figure, AC and BD intersect at X . Prove that $XC = \frac{1}{2}DE$.

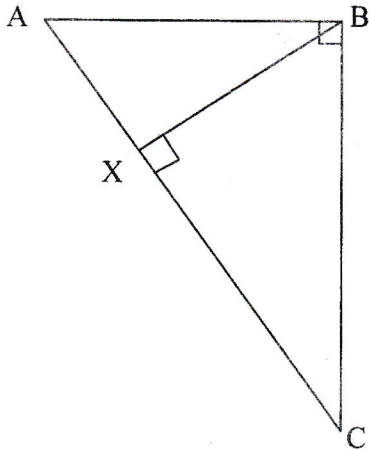
3.



In the figure, AXC and DXB are straight lines.

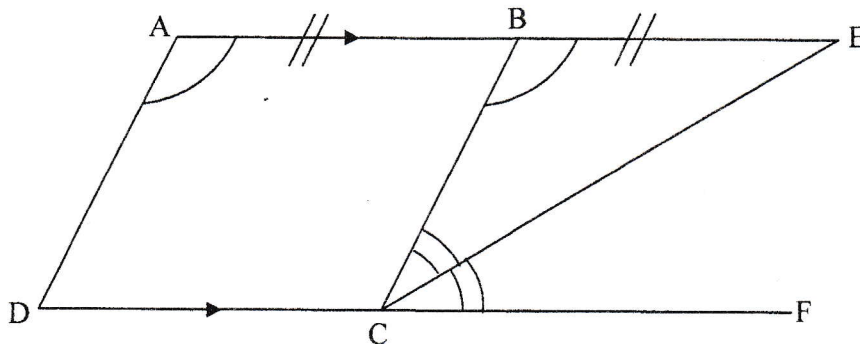
- (a) Redraw the figure and add a point M on DC such that $MX \perp AC$.
- (b) Prove that $AM=MC$.

4.



- (a) Prove that $\triangle AXB \sim \triangle BXC$.
- (b) State another pair of similar triangles.

5.



In the figure, ABE and DCF are straight lines.

- (a) Prove that $ABCD$ is a parallelogram.
- (b) Prove that $\triangle BCE$ is an isosceles triangle.
- (c) Hence prove that $ABCD$ is a rhombus.