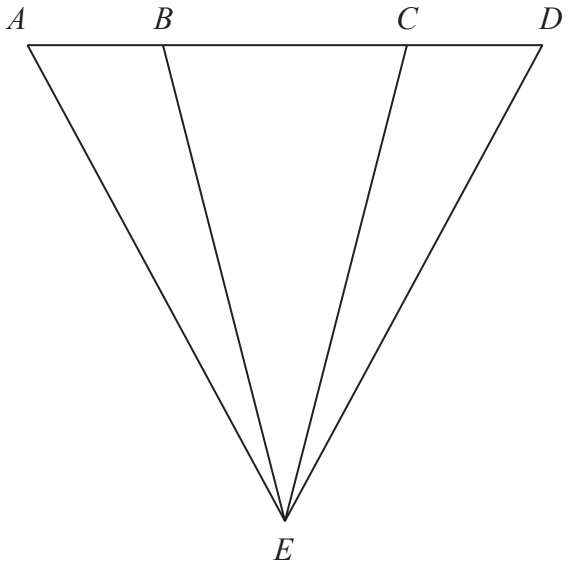
**1** The diagram shows a triangle $ADE$.

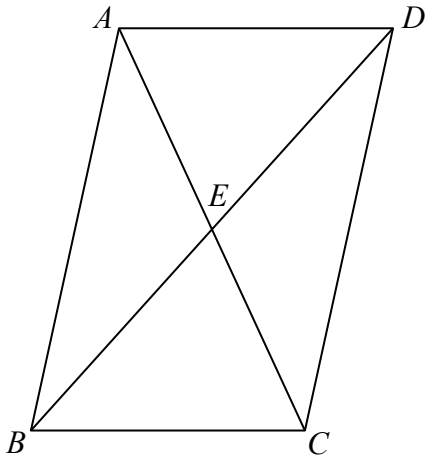



$AE = DE$
$AB : BC : CD = 1 : 2 : 1$

Prove that triangle $ACE$ is congruent to triangle $DBE$.

**(Total for Question 1 is 3 marks)**

**2** *ABCD* is a parallelogram.

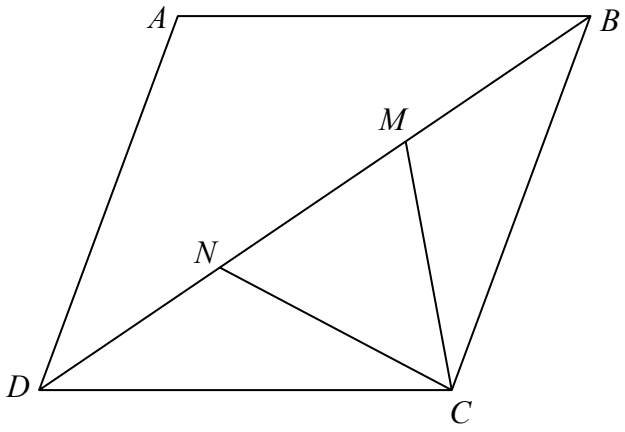



*E* is the point where the diagonals *AC* and *BD* meet.

Prove that triangle *ABE* is congruent to triangle *CDE*.

**(Total for Question 2 is 3 marks)**

**3** *ABCD* is a rhombus.

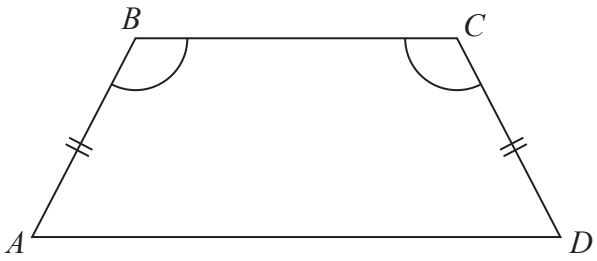



*M* and *N* are points on *BD* such that $DN = MB$.

Prove that triangle *DNC* is congruent to triangle *BMC*.

**(Total for Question 3 is 3 marks)**

**4** $ABCD$ is a quadrilateral.

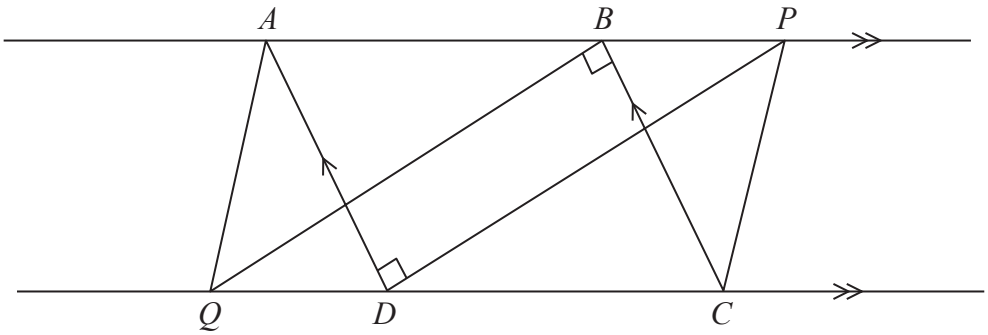



$AB = CD$.
Angle $ABC$ = angle $BCD$.

Prove that $AC = BD$.

**(Total for Question 4 is 4 marks)**

**5**




*ABCD* is a parallelogram.
*ABP* and *QDC* are straight lines.
Angle *ADP* = angle *CBQ* = 90°

(a) Prove that triangle *ADP* is congruent to triangle *CBQ*.

**(3)**

(b) Explain why *AQ* is parallel to *PC*.

**(2)**

**(Total for Question 5 is 5 marks)**