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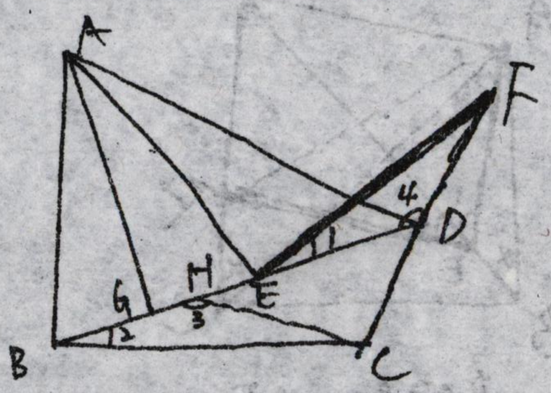
市一模25题解法汇编：

初三数学 2013.5.

(2)



法一：① 截长

在BD上截取BH=ED

可证：$\angle 4=\angle 2$

$\therefore \triangle BHC \cong \triangle EFD$

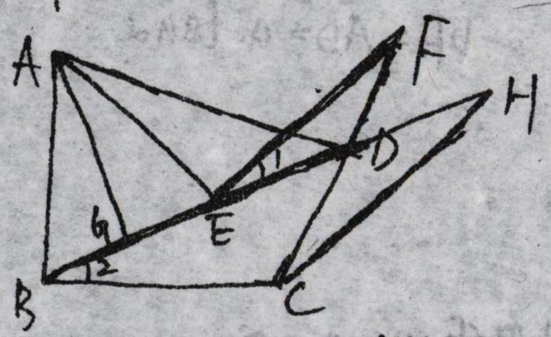
$\therefore FH=CH$

$\therefore \angle 3=\frac{1}{2}\angle FDE$

$\therefore \angle CHD=\angle CDH$

$\therefore HC=CD$

$\therefore FD=CD$



法二：

① 过点C作CH∥EF交BD延长线于H

$\because \angle 1=\angle 2$

$\angle 1=\angle H$ $\angle 2=\angle H$

$\therefore BC=CH$

又$\because BC=EF$

$\therefore EF=CH$

可证 $\triangle EFD \cong \triangle CDH$

$\therefore FD=CD$

② 补短

延长 BD 至点H使 BD=EH

连结 FH

可证 $\triangle BDC \cong \triangle EFH$

$\therefore FH=CD$

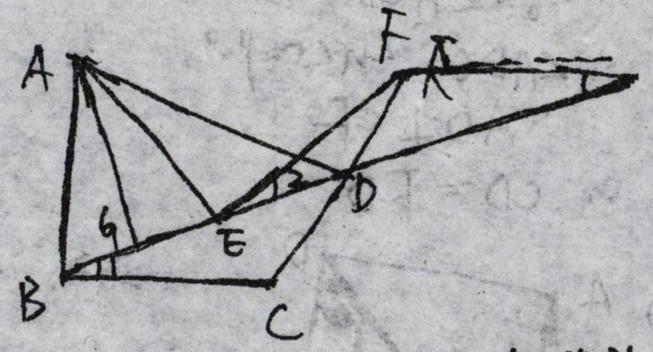
$\angle 3=\angle H$

$\angle 3=\angle 4$

$\therefore \angle 4=\angle H$

$\therefore FH=DF$

$\therefore DF=DC$



② 过点F作FH∥BC交BD延长线于H

$\angle H=\angle 1$

又$\because \angle 1=\angle 2$

$\therefore \angle 2=\angle H$

$\therefore EF=FH$

又$\because EF=BC$

$\therefore FH=BC$

可证 $\triangle BDC \cong \triangle FDH$

$\therefore FD=CD$