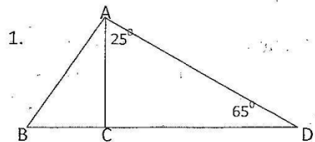


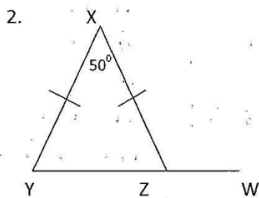
Found of Math 110

WRITING PROOFS



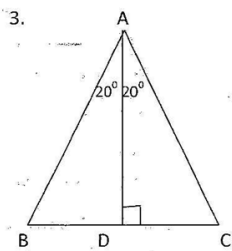
Prove that  $\triangle ABC$  is right-angled.

statement	reason
$\angle CAD = 25^\circ$	Given
$\angle ADC = 65^\circ$	Given
$180^\circ - \angle CAD - \angle ADC = \angle ACD = 90^\circ$	Sum of angles in $\triangle$
$180^\circ - \angle ACD = \angle ACB = 90^\circ$	Def. of line
$\therefore \triangle ABC$ is right	



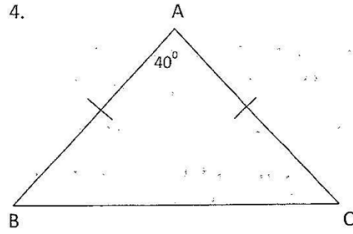
Prove  $\angle XZW = 115^\circ$ .

statement	reason
$\angle X = 50^\circ$	Given
$XY = XZ$	Given
$\frac{180^\circ - \angle X}{2} = \angle XZY = 65^\circ$	Sum of angles in $\triangle$ + Isosc. $\triangle$
$180^\circ - \angle XZY = \angle XZW = 115^\circ$	Def. of line
$\therefore \angle XZW = 115^\circ$	



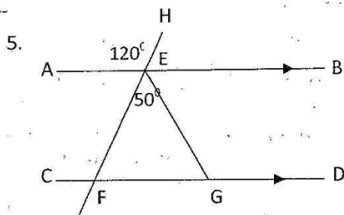
Prove  $\triangle ABC$  is isosceles.

statement	reason
$\angle BAD = 20^\circ$	Given
$\angle CAD = 20^\circ$	Given
$\angle ADC = 90^\circ$	Given
$180^\circ - \angle ADC - \angle CAD = \angle ACD = 70^\circ$	sum of angles in $\triangle$
$180^\circ - \angle ADC = \angle ADB = 90^\circ$	Def. of line
$180^\circ - \angle ADB - \angle BAD = \angle ABD = 70^\circ$	sum of angles in $\triangle$
$\angle ACD = \angle ABD$	trans. prop.
$\therefore \triangle ABC$ is isosc.	



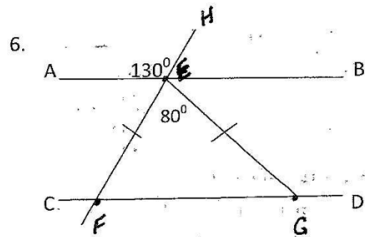
Prove  $\angle ABC = 70^\circ$ .

statement	reason
$\angle A = 40^\circ$	Given
$AB = AC$	Given
$\frac{180^\circ - \angle A}{2} = \angle ABC = 70^\circ$	sum of angles in $\Delta$ + isosc. $\Delta$
$\therefore \angle ABC = 70^\circ$	



Prove  $\angle EGF = 70^\circ$ .

statement	reason
$AB \parallel CD$	Given
$\angle AEH = 120^\circ$	Given
$\angle FEG = 50^\circ$	Given
$\angle AEH - \angle FEG = \angle BEG = 70^\circ$	Opposite angles
$\angle BEG = \angle EGF = 70^\circ$	alternate interior $\angle$
$\therefore \angle EGF = 70^\circ$	



Prove  $AB \parallel CD$ .

statement	reason
$\angle AEH = 130^\circ$	Given
$\angle FEG = 80^\circ$	Given
$FE = GE$	Given
$180^\circ - \angle AEH = \angle BEH = 50^\circ$	Def. of line
$\frac{180^\circ - \angle FEG = \angle EFG = 50^\circ}{2}$	sum of angles in $\Delta$ + isosc. $\Delta$
$\angle BEH = \angle EFG = 50^\circ$	trans. prop
$\therefore AB \parallel CD$	corresponding angles equal.

## Attachments

---

PM11-2s3-2.gsp

2s3e2 finalt.mp4