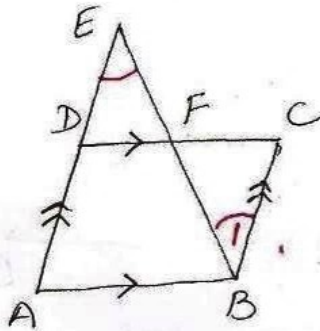


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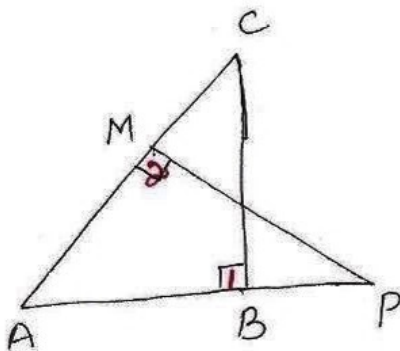
to show $\triangle ABE \sim \triangle CFB$
 proof $AD \parallel BC$ (opposite sides of $\parallel gm$)

$\Rightarrow \angle ADE \parallel BC$
 $\angle E = \angle C$ (alternate interior \angle s)

$\angle A = \angle C$ (opp. \angle s of a $\parallel gm$)

$\therefore \triangle ABE \sim \triangle CFB$ by AA Sim.

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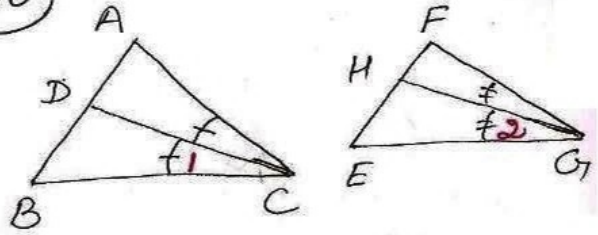
To prove $\triangle ABC \sim \triangle AMP$

$$\frac{CA}{PA} = \frac{BC}{MP}$$

proof $\angle A = \angle A$
 $\angle C = \angle P = 90^\circ$
 $\therefore \triangle ABC \sim \triangle AMP$ by AA Sim.

$$\Rightarrow \frac{CA}{PA} = \frac{BC}{MP}$$

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to prove $\frac{CD}{GH} = \frac{AC}{FG}$

$\triangle DCB \sim \triangle HGE$

$\triangle DCA \sim \triangle HGF$

proof

$\triangle ABC \sim \triangle FEG$

$\Rightarrow \angle A = \angle F \dots (i)$
 $\angle B = \angle E \dots (ii)$
 $\angle ACB = \angle FGE \dots (iii)$

$$\frac{1}{2} \angle ACB = \frac{1}{2} \angle FGE$$

$$\Rightarrow \angle C = \angle G$$

$\triangle DCB \sim \triangle HGE$ by AA Sim.

$$\left[\begin{array}{l} \angle C = \angle G \\ \angle B = \angle E \end{array} \right]$$

Sim. $\triangle DCA \sim \triangle HGF$

$$\Rightarrow \frac{CD}{GH} = \frac{AC}{FG}$$