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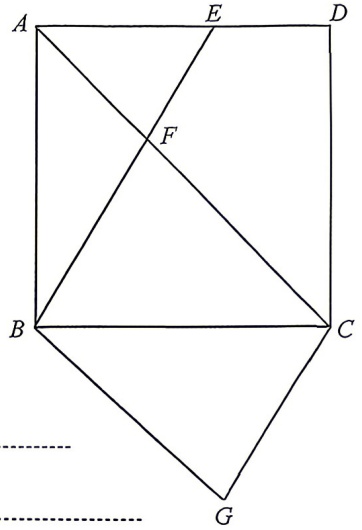
Content: Ch.5 Quadrilaterals

1. In the figure, $ABCD$ is a square. It is given that E is a point lying on AD. AC and BE intersect at F. Let G be a point such that $AC \parallel BG$ and $BE \parallel GC$.



(a) Prove that

(i) $\Delta BCG \cong \Delta CBF$,

(ii) $\Delta AEF \sim \Delta CBF$.

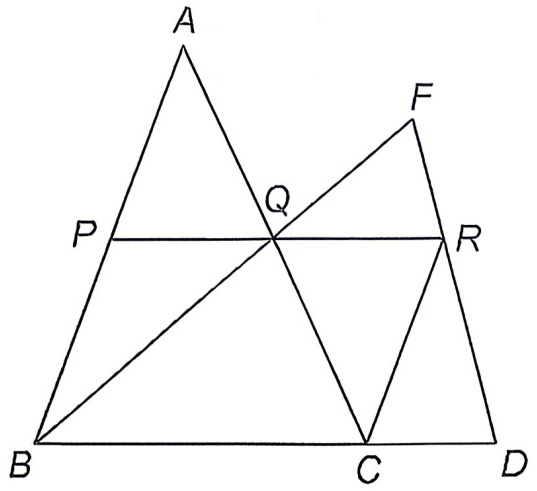
(b) Suppose that $\angle BGC = \angle BCG$. Let $BC = x$.

(i) Express AF in terms of x.

(ii) Mary claims that $DE > AF$.

Do you agree? Explain your answer.

2. In the figure, $PBCR$ is a parallelogram. P is the mid-point of AB.



(a) If $PQ = x$ cm, find the lengths of BC and QR in terms of x.

(b) Is it possible that $FR = RD$? Explain your answer.

END OF ASSIGNMENT