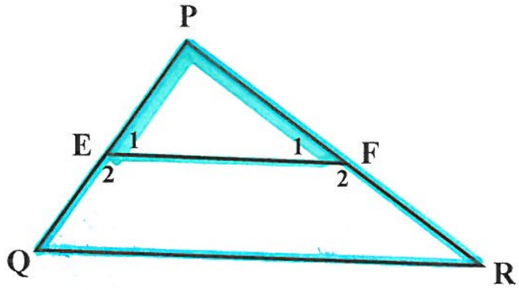
Worksheet 2015-9ƐP-00003(1)

(1) FE // QR. Prove that: (a) Δ PEF /// Δ PQR

(b) PE . PR = PQ . PF



(a) In Δ PEF and Δ PQR :

* $\hat{P} = \hat{P}$ [common ∠]
* $\hat{E}_1 = \hat{Q}$ [corresp. ∠ ; EF // QR]
* $\hat{F}_1 = \hat{R}$ ["]

∴ Δ PEF /// Δ PQR [∠∠∠]

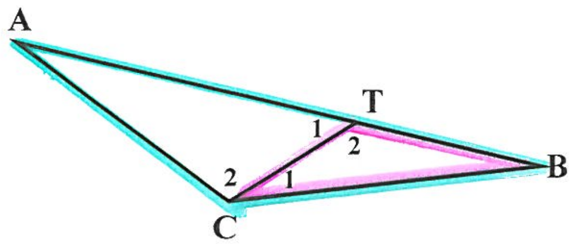
(b) $\frac{PE}{PQ} = \frac{EF}{QR} = \frac{PF}{PR}$ [Δ PEF /// Δ PQR]

∴ PE . PR = PF . PQ

(2) $\hat{T}_2 = \hat{C}$ and AC = BC.

Prove that: (a) Δ ABC /// Δ BCT

(b) BC^2 = AB . CT



(a) In Δ ABC and Δ BCT :

* $\hat{C} = \hat{T}_2$ [given]
* $\hat{A} = \hat{B}$ [∠s opp. equal sides]
* $\hat{B} = \hat{C}_1$ [int. ∠s of Δ]

∴ Δ CAB /// Δ TBC [∠∠∠]

(b) $\frac{CA}{TB} = \frac{AB}{BC} = \frac{CB}{TC}$ [Δ CAB /// Δ TBC]

∴ AB . TC = CB . BC

∴ BC^2 = AB . CT