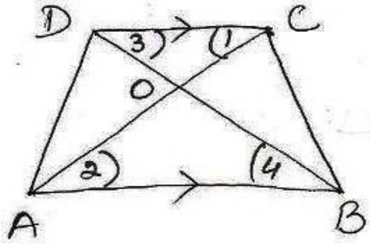
2 cont.

$\Delta ODC \sim \Delta OBA$

$\therefore \angle OCD = \angle OAB$

$55' = \angle OAB$

(3)



to show $\frac{OA}{OC} = \frac{OB}{OD}$

proof $DC \parallel AB$

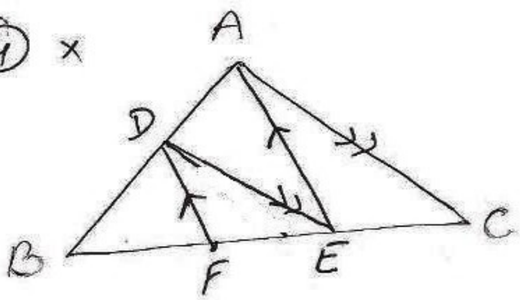
$\angle 1 = \angle 2$ (alternate
$\angle 3 = \angle 4$ int. $\angle$s)

$\therefore \Delta OCD \sim \Delta OAB$
by AA Similarity

$\frac{OC}{OA} = \frac{OD}{OB}$

$\Rightarrow \frac{OA}{OC} = \frac{OB}{OD}$

(4) ×



to prove $\frac{BF}{FE} = \frac{BE}{EC}$

Proof In ΔABE, $DF \parallel AE$

$\frac{BF}{FE} = \frac{BD}{DA}$ ...(I)

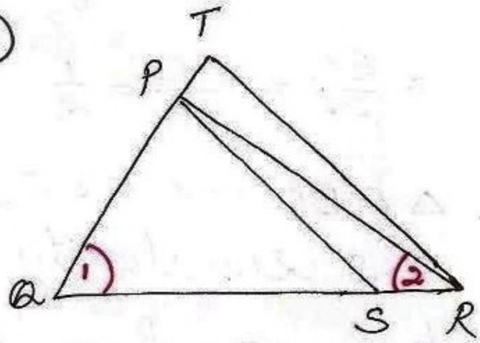
In ΔABC, $DE \parallel AC$

$\frac{BD}{DA} = \frac{BE}{EC}$ ...(II)

From (I), (II)

$\frac{BF}{FE} = \frac{BE}{EC}$

(4)



to show $\Delta PQS \sim \Delta TQR$

proof In ΔPQR

$\angle 1 = \angle 2$

$\Rightarrow PR = PQ$ (isosceles Δ prop.)

$\frac{QR}{QS} = \frac{QT}{PR}$

$\Rightarrow \frac{QR}{QS} = \frac{QT}{PQ}$ ($\because PR = PQ$)

and $\angle 1 = \angle 1$ (Common)

$\Delta TQR \sim \Delta PQS$ by SAS.