

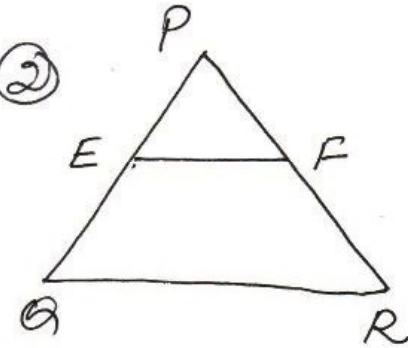
(1) In  $\triangle ABC$ ,  $DE \parallel BC$ . Using Basic Prop. th.

(i)  $\frac{AD}{AB} = \frac{AE}{AC}$   
 $\frac{1.5}{3} = \frac{1}{EC}$

$\Rightarrow EC = 2 \text{ cm}$

(ii)  $\frac{AD}{DB} = \frac{AE}{EC}$   
 $\frac{1.8}{7.2} = \frac{1.8}{5.4}$

$\Rightarrow AD = \frac{7.2}{3}$   
 $= 2.4 \text{ cm}$



(i)  $\frac{PE}{EQ} = \frac{1.3}{3} = 1.3$  |  $\frac{PF}{FR} = \frac{3.6}{2.4} = 1.5$

$\therefore \frac{PE}{EQ} \neq \frac{PF}{FR} \therefore EF$  is not parallel to  $QR$

(ii)  $\frac{PE}{EQ} = \frac{4}{4.5} = \frac{4 \times 2}{4.5 \times 2} = \frac{8}{9}$  |  $\frac{PF}{FR} = \frac{8}{9}$

$\therefore \frac{PE}{EQ} = \frac{PF}{FR} \therefore$  by converse of basic prop. th.  $EF \parallel QR$

(iii)  $\frac{PE}{PQ} = \frac{0.18}{1.28} = \frac{18}{128} = \frac{9}{64}$  |  $\frac{PF}{PR} = \frac{0.36}{2.56} = \frac{36}{256} = \frac{9}{64}$

$\therefore \frac{PE}{PQ} = \frac{PF}{PR} \therefore$  by converse of basic prop. th.  $EF \parallel QR$