

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

$$(i) \frac{AD}{DB} = \frac{AE}{EC}$$

$$\frac{1.5}{3} = \frac{1}{EC}$$

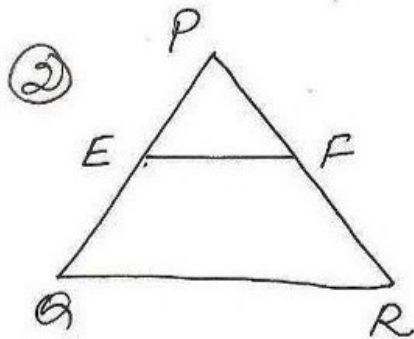
$$\Rightarrow EC = 2 \text{ cm}$$

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

$$7.2 = \frac{1.8}{5.4} \cdot 3$$

$$\Rightarrow AD = \frac{7.2}{3}$$

$$= 2.4 \text{ cm}$$



$$(i) \frac{PE}{EQ} = \frac{1.3}{3.9} = 1.3$$

$$\frac{PF}{FR} = \frac{3.6}{2.4} = 1.5$$

$\therefore \frac{PE}{EQ} \neq \frac{PF}{FR} \therefore EF$ 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. $EF \parallel QR$