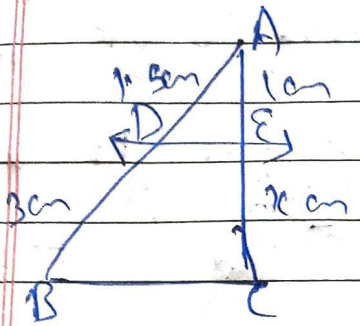
Ex-6.3

1. In fig (i) & (ii) DE || BC, find EC in (i) & AD in (ii)



let EC = x cm

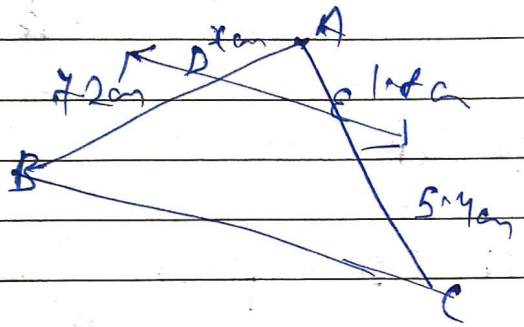
By using BPT we obtained

$\frac{AD}{DB} = \frac{AE}{EC} \Rightarrow \frac{1.5}{3} = \frac{1}{x} \Rightarrow x = \frac{3 \times 1}{1.5}$

$\Rightarrow x = 2$

EC = 2cm

(ii)



let AD = x cm

$\frac{AD}{DB} = \frac{AE}{EC} \Rightarrow \frac{x}{7.2} = \frac{1.8}{5.4}$

$\Rightarrow x = \frac{1.8 \times 7.2}{5.4} = 2.4$

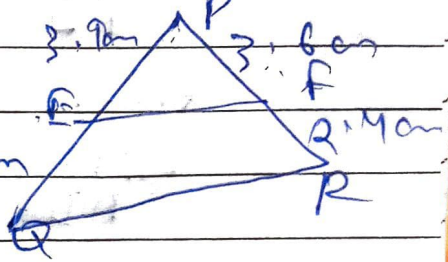
AD = 2.4 cm

2. E & F are points on sides of PQ & PR of a △ PQR. State whether EF || QR

(i) PE = 3.9 cm, EQ = 3cm, PF = 3.6cm, FR = 2.4cm

$\frac{PE}{EQ} = \frac{3.9}{3} = 1.3$

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



$\therefore \frac{PE}{EQ} \neq \frac{PF}{FR}$

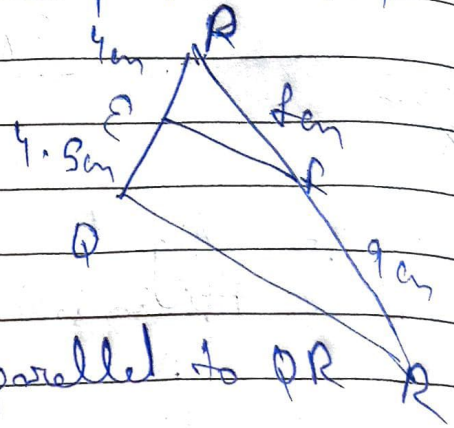
$\therefore$ EF is not parallel to QR

(ii) PE = 4cm, QE = 4.5cm, PF = 8cm, RF = 9cm

A $\frac{PE}{EQ} = \frac{4}{4.5} = \frac{8}{9}$

$\frac{PF}{FR} = \frac{8}{9}$

$\frac{PF}{FR} = \frac{PE}{EQ}$ $\therefore$ Ef is parallel to QR



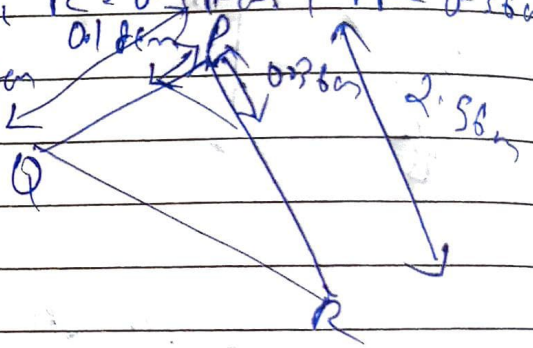
(iii) PQ = 1.28cm, PR = 2.56cm, PE = 0.14cm, PF = 0.36cm

A $\frac{PE}{PQ} = \frac{0.14}{1.28} = \frac{14}{128} = \frac{7}{64}$

$\frac{PF}{PR} = \frac{0.36}{2.56} = \frac{9}{64}$

Hence $\frac{PE}{PQ} = \frac{PF}{PR}$

$\therefore$ EF is || to QR



3. By LM || CB & LN || CD, prove that $\frac{AM}{AB} = \frac{AN}{AD}$

A By using BPT

$\frac{AM}{AB} = \frac{AL}{AC}$ ——— (1)

Similarly LN || CD

$\frac{AN}{AD} = \frac{AL}{AC}$ ——— (2)

From (1) & (2)

$\frac{AM}{AB} = \frac{AN}{AD}$