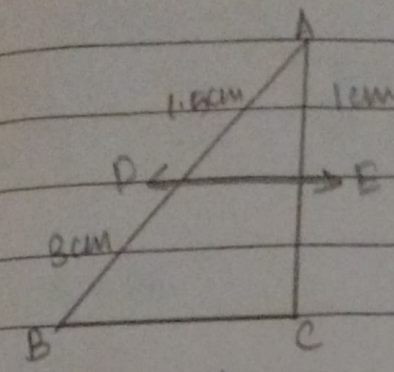
Exercise 6.2

1.(i)



$AD = 1.5\text{ cm}$
$BD = 3\text{ cm}$
$AE = 1\text{ cm}$

According to BPT,

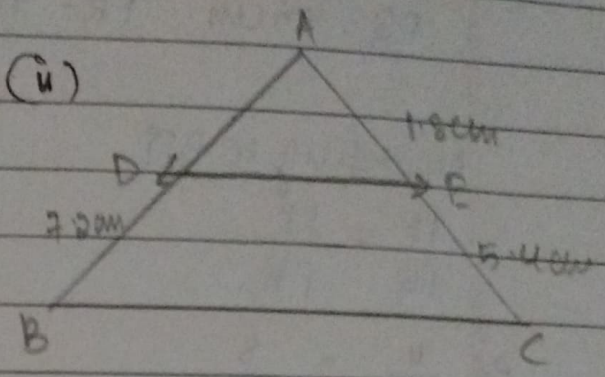
$$\frac{AD}{BD} = \frac{AE}{EC}$$

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

$$1.5x = 3$$

$$x = 2\text{ cm}$$

(ii)



$BD = 7.2\text{ cm}$
$AE = 1.8\text{ cm}$
$CE = 5.4\text{ cm}$

According to BPT

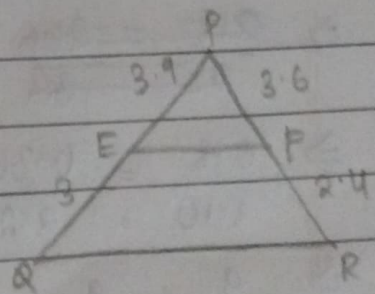
$$\frac{AD}{BD} = \frac{AE}{EC}$$

$$\frac{x}{7.2} = \frac{1.8}{5.4}$$

$$5.4x = 12.96$$

$$x = 2.4\text{ cm}$$

2. (i) $PE = 3.9\text{ cm}$ $PF = 3.6\text{ cm}$
$EQ = 3\text{ cm}$ $FR = 2.4\text{ cm}$



According to BPT,

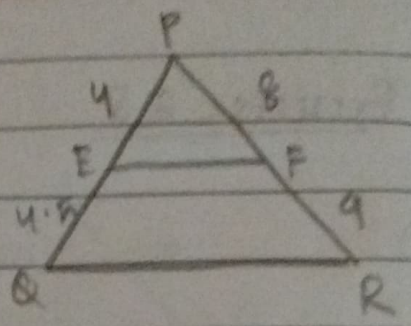
$$\frac{PE}{EQ} = \frac{PF}{FR}$$

$$\Rightarrow \frac{3.9}{3} = \frac{3.6}{2.4}$$

$$\Rightarrow 1.3 \neq 1.5$$

Therefore EF not parallel QR

(ii) PE = 4cm PF = 8cm
EQ = 4.5cm FR = 9cm



According to BPT

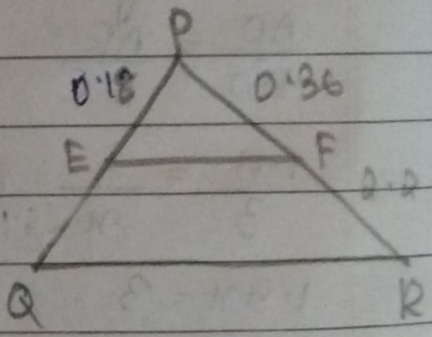
$$\frac{PE}{EQ} = \frac{PF}{FR}$$

$$\Rightarrow \frac{4}{4.5} = \frac{8}{9}$$

$$\Rightarrow \frac{40}{45} = \frac{8}{9}$$ Therefore EF || QR.

$$\Rightarrow \frac{8}{9} = \frac{8}{9}$$

(iii) PE = 0.18 cm PR = 2.56cm
EQ = 1.28 cm PF = 0.36cm



According to BPT

$$\frac{PE}{EQ} = \frac{PF}{FR}$$

$$\Rightarrow \frac{0.18}{1.28} = \frac{0.36}{2.56}$$

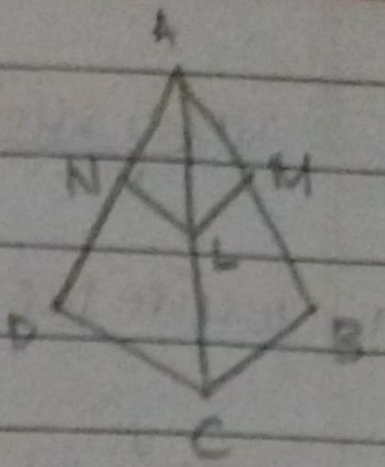
$$\Rightarrow \frac{0.18}{1.10} = \frac{0.36}{2.20}$$

$$\Rightarrow \frac{9}{55} = \frac{9}{55}$$ Therefore EF || QR

3. In ΔABC

$LM \parallel BC$

$\frac{AM}{AB} = \frac{AL}{AC}$ [According to BPT] —(i)



In ΔADC

$LN \parallel CD$

$\frac{AN}{AD} = \frac{AL}{AC}$ [By BPT] —(ii)

From equation (i) and (ii) we get $\frac{AM}{AB} = \frac{AN}{AD}$