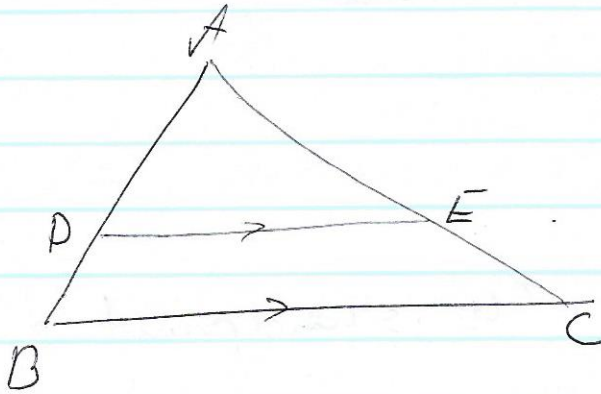


Proportionality theorem

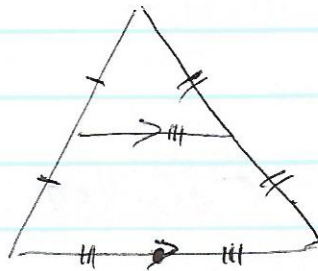
Dictate: A line parallel to one side of a triangle, divides the other two proportionally.



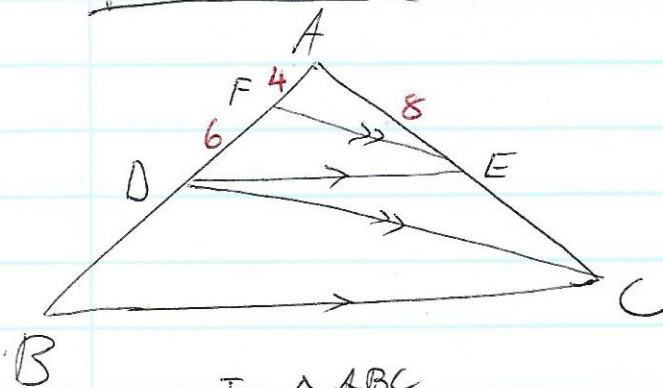
$$\frac{AD}{DB} = \frac{AE}{EC}$$

$$\frac{AD}{AB} = \frac{AE}{AC}$$

p223 - def NB.



p226 Ex3: 1



In $\triangle ADC$

$$\text{iii) } \frac{EC}{AE} = \frac{FD}{AF} \quad (\text{Proportionality theorem, } FE \parallel DC)$$

$$\therefore \frac{EC}{8} = \frac{6}{4}$$

$$\therefore \underline{EC = 12} \rightarrow$$

In $\triangle ABC$

$$\text{i-i.2) } \frac{AB}{AD} = \frac{AC}{AE}$$

$$\frac{AB}{10} = \frac{20}{8}$$

$$\underline{AB = 25} \rightarrow$$

(Proportionality theorem, $DE \parallel BC$)

i-2) In $\triangle AFE$ & $\triangle ABC$

$$\Delta = \frac{1}{2}(4)(8) \sin A$$

$$\Delta = \frac{1}{2}(25)(20) \sin A$$

$$= \frac{1 \cdot 32}{2 \cdot 250} = \frac{8}{125}$$