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T1 P is the midpoint of AB.
$\therefore AP = BP$
$\angle EPA + \angle EPD = \angle DPB + \angle EPD$
$\Rightarrow \angle APD = \angle BPE$.
(i) Now, in $\triangle DAP$ and $\triangle EBP$ we have
$\angle PAD = \angle PBE$ ($\because \angle BAD = \angle ABE$).
$AP = BP$ (Proved above)
$\angle DPA = \angle EPB$ [Proved above].
$\triangle DAP \cong \triangle EBP$ [BY ASA congruency].
(ii) since, $\triangle DAP \cong \triangle EBP$
$\Rightarrow AD = BE$ [By CPCT].

T2 In $\triangle ABD$ and $\triangle ACD$, we have
(i) $AB = AC$ [Given].
$AD = DA$ [Common]
$BD = CD$ [Given].
$\therefore \triangle ABD \cong \triangle ACD$ [By SSS congruency].
$\angle BAD = \angle CAD$ [By CP.C.T]. $\longrightarrow$ (1)
(ii) In $\triangle ABP$ and $\triangle ACP$, we have
$AB = AC$ [Given].
$\angle BAP = \angle CAP$ [From (1)]
$\therefore AP = PA$ (common].
$\therefore \triangle ABP \cong \triangle ACP$ [By SAS congruency].
(iii) since $\triangle ABP \cong \triangle ACP$
$\Rightarrow \angle BAP = \angle CAP$ [By CPCT].
$\therefore$ AP is the bisector of $\angle A$.
in $\triangle BDP$ and $\triangle CDP$
we have $BD = CD$ [Given]

$DP = PD$ [common]

$BP = CP$ [$\because \Delta ABP \cong \Delta ACP$].

$\Rightarrow \angle BDP = \angle CDP$ [By SSS congruency].

DP is the bisector of $\angle BDC$

$\therefore$ AP is the bisector of $\angle A$ and $\angle D$.

(iv) As $\Delta ABP \cong \Delta ACP$

$\Rightarrow \angle APB = \angle APC$, $BP = CP$ [By C.P.C.T].

But $\angle APB + \angle APC = 180°$ [Linear Pair].

$\therefore \angle APB = \angle APC = 90°$

$\Rightarrow AP \perp BC$ & also $BP = CP$.

Q5 Given

$5x + 3y = 190 \rightarrow (1)$

$3x + 2y = 118 \rightarrow (2)$