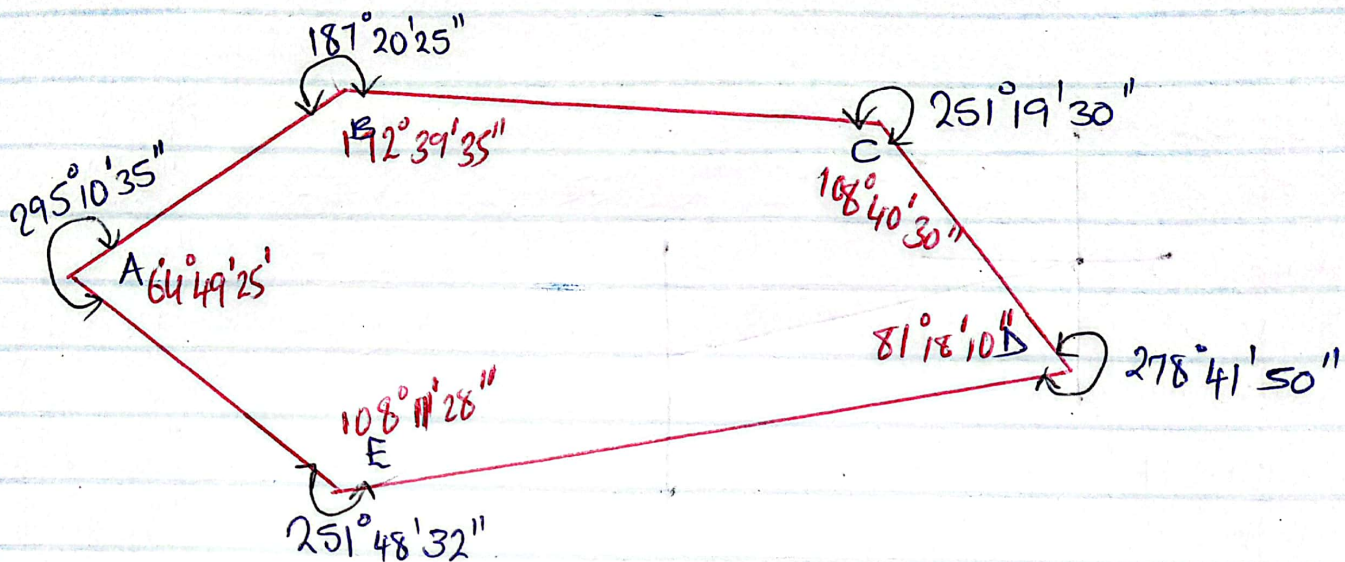


5. Figure below shows a plan layout of a loop traverse. If the bearing of line CB is 290° , determine the bearings of line CD, DE, EA & AB.



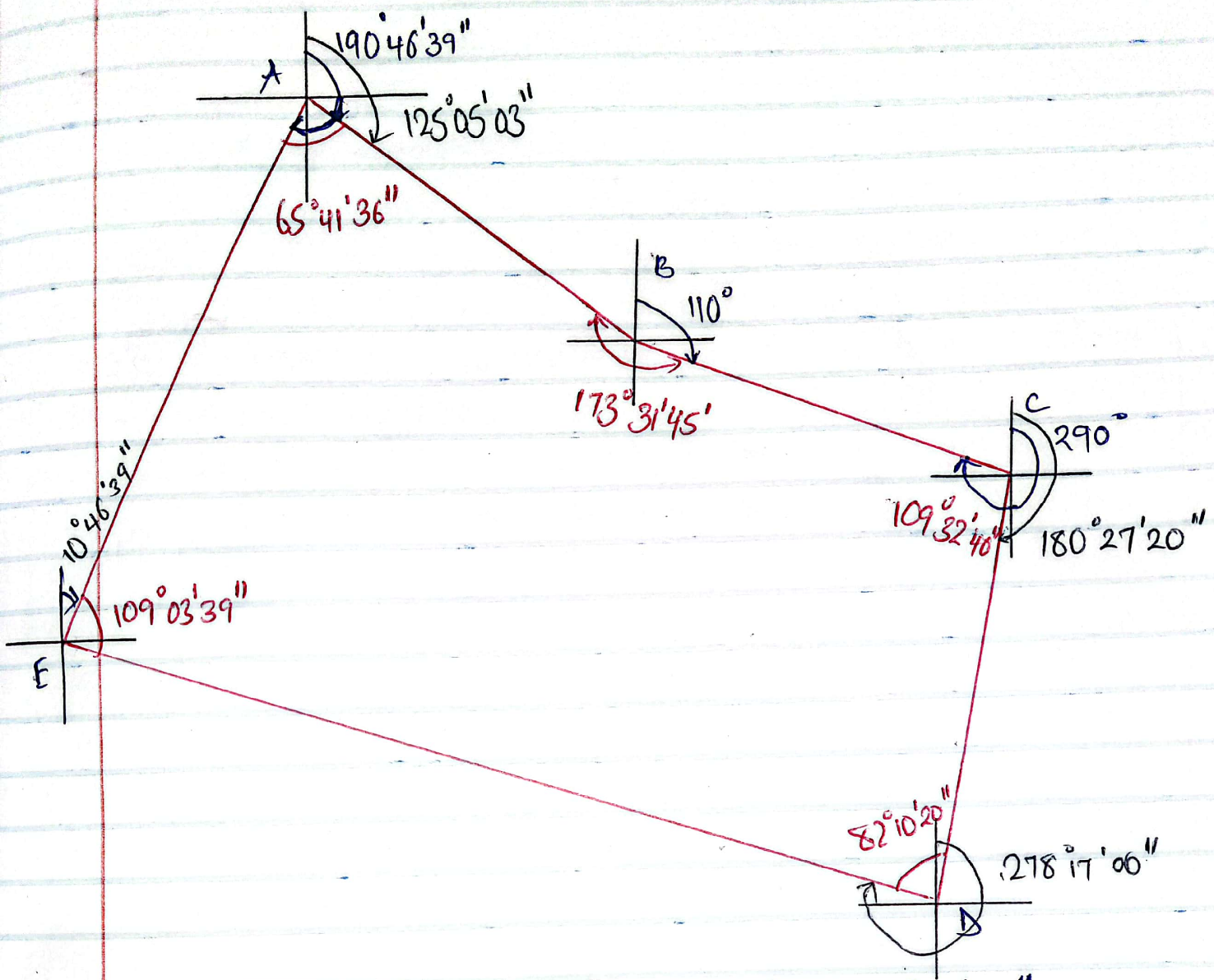
Sum of internal angles $\Rightarrow 535^\circ 39' 08''$

$(2n-4) \times 90 \Rightarrow 540^\circ$

$540^\circ - 535^\circ 39' 08'' \Rightarrow [4^\circ 20' 52''] \div 5 \text{ stms}$

\rightarrow correction of $0^\circ 52' 10''$ to each.

$172^\circ 39' 35''$	$+ 0^\circ 52' 10''$	\Rightarrow	$173^\circ 31' 45''$
$108^\circ 40' 30''$	$+ 0^\circ 52' 10''$	\Rightarrow	$109^\circ 32' 40''$
$81^\circ 18' 10''$	$+ 0^\circ 52' 10''$	\Rightarrow	$82^\circ 10' 20''$
$108^\circ 11' 28''$	$+ 0^\circ 52' 11''$	\Rightarrow	$109^\circ 8' 39''$
$64^\circ 49' 25''$	$+ 0^\circ 52' 11''$	\Rightarrow	$65^\circ 41' 36''$
<hr/>	<hr/>		<hr/>
$535^\circ 39' 08''$	$4^\circ 20' 52''$		$540^\circ 0' 00''$



$$\text{Bearing CD} = 290^\circ - 109^\circ 32' 40'' \Rightarrow 180^\circ 27' 20''$$

$$\text{Bearing DE} = (\text{B.B of CD } 180^\circ 27' 20'' - 180^\circ \Rightarrow 0^\circ 27' 20'')$$

$$360^\circ - (82^\circ 10' 20'' - 0^\circ 27' 20'')$$

$$\Rightarrow 278^\circ 17' 00''$$

$$\text{Bearing EA} \Rightarrow (\text{B.B of DE } 278^\circ 17' 00'' - 180^\circ \Rightarrow 98^\circ 17' 00'')$$

$$\Rightarrow 109^\circ 03' 39'' - 98^\circ 17' 00''$$

$$\Rightarrow 10^\circ 46' 39''$$

$$\text{Bearing AB} = (\text{B.B of E.A } 10^\circ 46' 39'' + 180^\circ = 190^\circ 46' 39'')$$

$$190^\circ 46' 39'' - 65^\circ 41' 36''$$

$$\Rightarrow 125^\circ 05' 03''$$