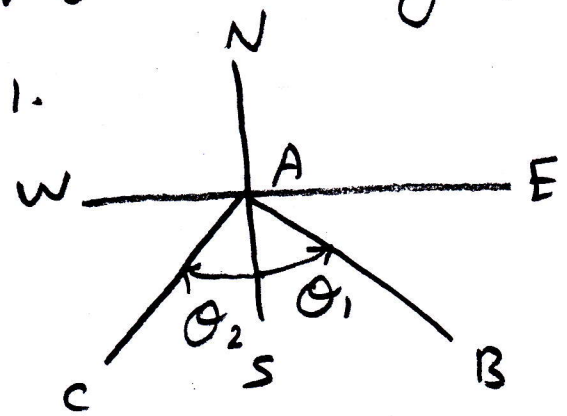
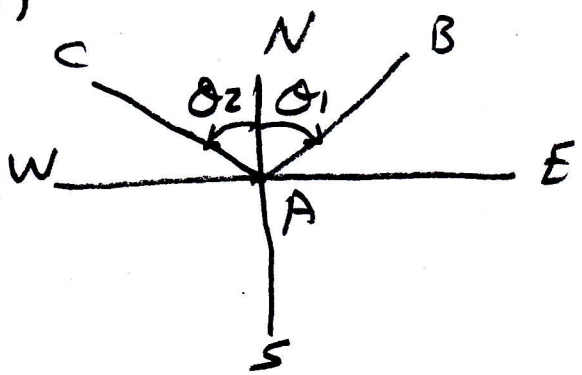
Calculation of included angles:

if Given bearing (Q.B)

1.





$\angle CAB = \theta_1 + \theta_2$

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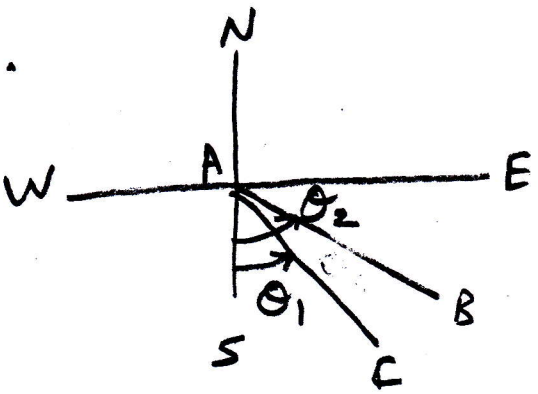
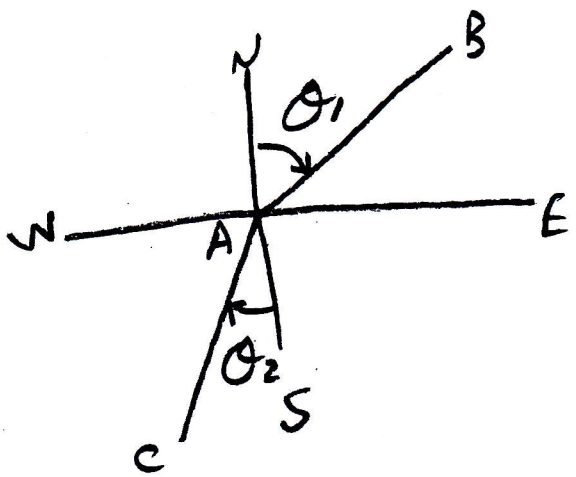
2.



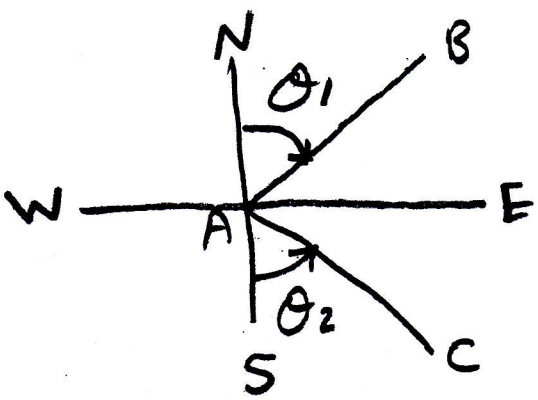
$\angle CAB = \theta_2 - \theta_1$

3.



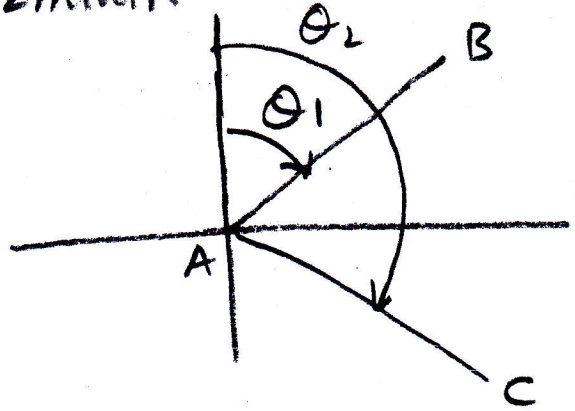
$\angle CAB = 180^\circ - (\theta_1 - \theta_2)$

4.



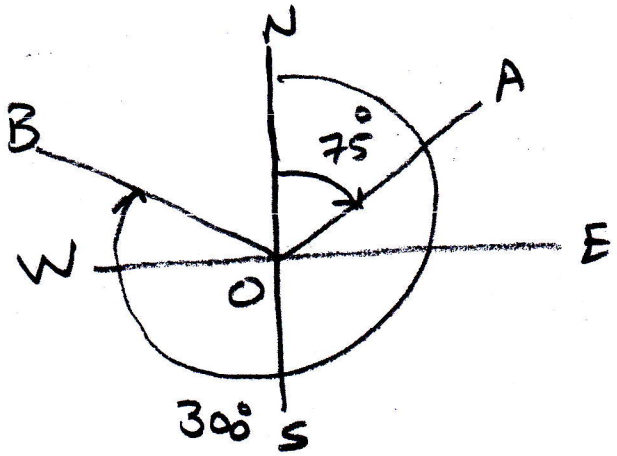
$\angle CAB = 180^\circ - (\theta_1 + \theta_2)$

if Given Azmiuth



$\angle CAB = \theta_2 - \theta_1$

Example / Calculate the exterior and interior angle of AOB if OA = 75° 00′ and OB = 300° 00′



Exterior = 300° − 75° = 225°
Interior = 360 − 225° = 135° ∠BOA

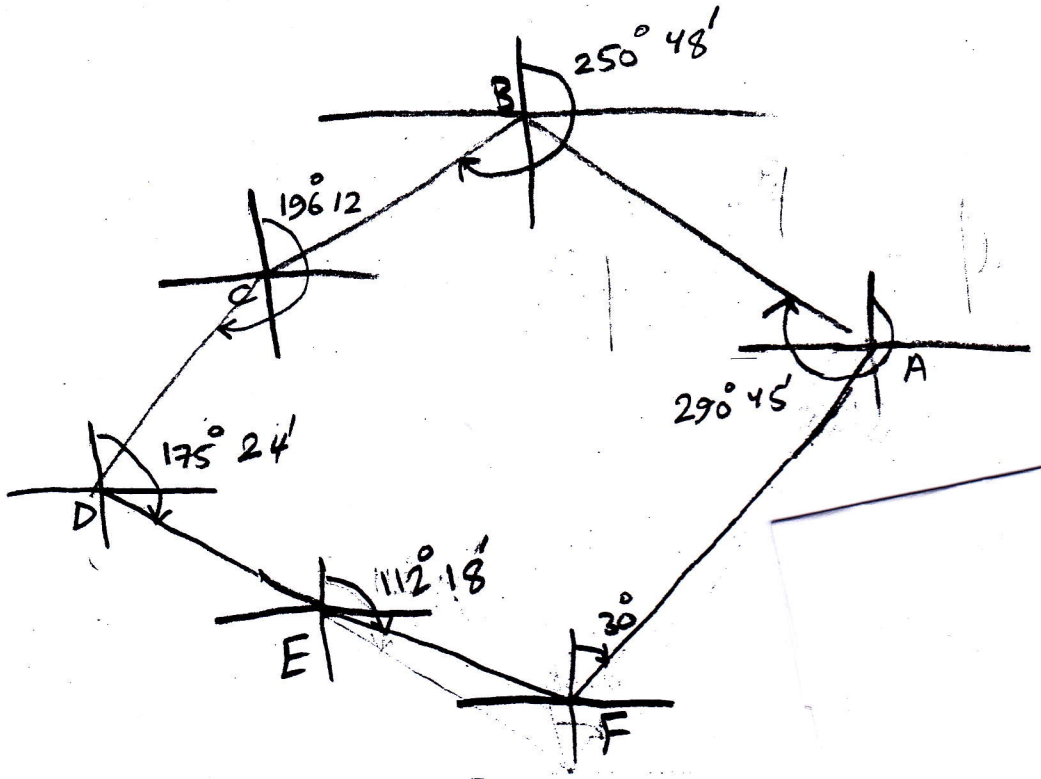
Example/

The traverse with points ABCDEF, the Azimuth for the sides are :

AB = 290° 45′ , BC = 250° 48′ , CD = 196° 12′

DE = 175° 24′ , EF = 112° 18′ , FA = 30° 00′

Calculate the interior angles



Azimuth BA = 290° 45′ − 180° = 110° 45′

∠B = 250° 48′ − 110° 45′ = 140° 03′

Azimuth CB = 250° 48′ − 180° = 70° 48′

∠C = 196° 12 − 70° 48′ = 125° 24′

Azimuth DC = 196° 12′ − 180° = 16° 12′

∠D = 175° 24′ − 16° 12′ = 159° 12′

Azimuth ED = 175° 24′ + 180° = 355° 24′

∠E = 360° − 355° 24′ + 112° 18′ = 116° 54′

Azimuth FE = $112^\circ 18' + 180^\circ = 292^\circ 18'$

$\angle F = 360^\circ - 292^\circ 18' + 30^\circ = 97^\circ 42'$

Azimuth AF = $180^\circ + 30^\circ = 210^\circ$

$\angle A = 290^\circ 45' - 210^\circ = 80^\circ 45'$

$\angle A + \angle B + \angle C + \angle D + \angle E + \angle F$

$80^\circ 45' + 140^\circ 03' + 125^\circ 24' + 159^\circ 12'$

$+ 116^\circ 54' + 97^\circ 42' = 720^\circ$

(n = number of sides in traverse)

$(n-2) * 180$ ---- for checking

$(6-2) * 180 = 720^\circ$ ---- its ok.

H.W / ABCD square fixed from point A the direction AB = $52^\circ 45'$. Calculate the directions for other sides.