

Model Answer- Quiz # 3 (CE 371) – 2018-19-3

Majmaah University

College of Engineering

Civil & Environmental Eng. Dept.

Surveying II (CE 371)

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Name:	Academic Number:
Level (7): Civil Engineering:	Time allowed: 30 min.

Quiz#3

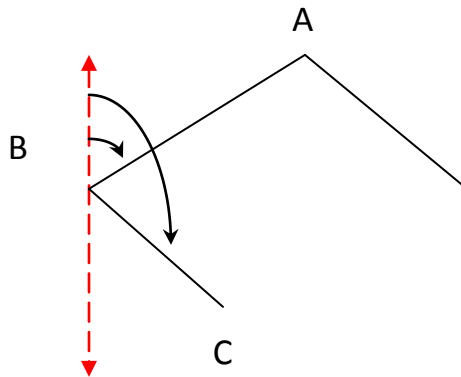
The bearings of a counterclockwise traverse ABCDEA are as following:

(ULO#4/CLO#3/b-kpi#8 =5 marks)

Side	F.B.	B.B.
AB	129° 25'	309° 25'
BC	042° 00'	222° 00'
CD	301° 30'	121° 30'
DE	209° 15'	029° 15'
EA	144° 45'	324° 45'

Calculate the Back Bearing (BB) and then the interior angles of the traverse.

Check the results.



Azimuth of a line = back azimuth of the previous line + the interior angle

$$\text{Angle B} = \text{F.B}_{BC} - \text{B.B}_{AB}$$

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$$B = 042^{\circ} 00' - 309^{\circ} 25' = 92^{\circ} 35'$$

$$\text{Angle C} = F.B_{CD} - B.B_{BC}$$

$$C = 301^{\circ} 30' - 222^{\circ} 00' = 79^{\circ} 30'$$

$$\text{Angle D} = F.B_{DE} - B.B_{CD}$$

$$D = 209^{\circ} 15' - 121^{\circ} 30' = 87^{\circ} 45'$$

$$\text{Angle E} = F.B_{EA} - B.B_{DE}$$

$$E = 144^{\circ} 45' - 029^{\circ} 15' = 115^{\circ} 30'$$

$$\text{Angle A} = F.B_{AB} - B.B_{EA}$$

$$A = 129^{\circ} 25' - 324^{\circ} 45' = 164^{\circ} 40'$$

Check

$$\sum \theta = 180 (n-2) = (92^{\circ} 35' + 79^{\circ} 30' + 87^{\circ} 45' + 115^{\circ} 30' + 164^{\circ} 40') = 540^{\circ}$$