Surveying - Traverse

Group Example Problem 2

➤ Balance the latitudes and departures for the following traverse.

Length (ft.)	Latitude	Departure	Corrections Latitude	Corrections Departure	Balanced Latitude	Balanced Departure
600.0	450.00	339.00				
450.0	-285.00	259.50				
750.0	-164.46	-599.22				
1800.0	0.54	-0.72				

Surveying - Traverse

Group Example Problem 2

➤ Balance the latitudes and departures for the following traverse.

Length (ft.)	Latitude	Departure	Corrections Latitude	Corrections Departure	Balanced Latitude	Balanced Departure
600.0	450.00	339.00				
450.0	-285.00	259.50				
750.0	-164.46	-599.22				
1800.0	0.54	-0.72				

$$\text{Correction in Lat}_{AB} = \frac{-0.54 \text{ ft.} (600 \text{ ft.})}{1,800 \text{ ft.}} = -0.18 \text{ ft.}$$

Surveying - Traverse

Group Example Problem 2

➤ Balance the latitudes and departures for the following traverse.

Length (ft.)	Latitude	Departure	Corrections Latitude	Corrections Departure	Balanced Latitude	Balanced Departure
600.0	450.00	339.00	-0.180		449.82	
450.0	-285.00	259.50				
750.0	-164.46	-599.22				
1800.0	0.54	-0.72				

$$\text{Correction in Dep}_{AB} = \frac{+0.72 \text{ ft.} (600 \text{ ft.})}{1,800 \text{ ft.}} = +0.24 \text{ ft.}$$

Surveying - Traverse

Group Example Problem 2

➤ Balance the latitudes and departures for the following traverse.

Length (ft.)	Latitude	Departure	Corrections Latitude	Corrections Departure	Balanced Latitude	Balanced Departure
600.0	450.00	339.00	-0.180	0.240	449.82	339.24
450.0	-285.00	259.50				
750.0	-164.46	-599.22				
1800.0	0.54	-0.72				

$$\text{Correction in Lat}_{BC} = \frac{-0.54 \text{ ft.} (450 \text{ ft.})}{1,800 \text{ ft.}} = -0.135 \text{ ft.}$$

Surveying - Traverse

Group Example Problem 2

➤ Balance the latitudes and departures for the following traverse.

Length (ft.)	Latitude	Departure	Corrections Latitude	Corrections Departure	Balanced Latitude	Balanced Departure
600.0	450.00	339.00	-0.180	0.240	449.82	339.24
450.0	-285.00	259.50	-0.135		-285.14	
750.0	-164.46	-599.22				
1800.0	0.54	-0.72				

$$\text{Correction in Dep}_{BC} = \frac{+0.72 \text{ ft.} (450 \text{ ft.})}{1,800 \text{ ft.}} = +0.18 \text{ ft.}$$

Surveying - Traverse

Group Example Problem 2

➤ Balance the latitudes and departures for the following traverse.

Length (ft.)	Latitude	Departure	Corrections Latitude	Corrections Departure	Balanced Latitude	Balanced Departure
600.0	450.00	339.00	-0.180	0.240	449.82	339.24
450.0	-285.00	259.50	-0.135	0.180	-285.14	259.68
750.0	-164.46	-599.22				
1800.0	0.54	-0.72				

$$\text{Correction in Lat}_{CA} = \frac{-0.54 \text{ ft.} (750 \text{ ft.})}{1,800 \text{ ft.}} = -0.225 \text{ ft.}$$

Surveying - Traverse

Group Example Problem 2

➢ Balance the latitudes and departures for the following traverse.

Length (ft.)	Latitude	Departure	Corrections Latitude	Corrections Departure	Balanced Latitude	Balanced Departure
600.0	450.00	339.00	-0.180	0.240	449.82	339.24
450.0	-285.00	259.50	-0.135	0.180	-285.14	259.68
750.0	-164.46	-599.22	-0.225		-164.69	
1800.0	0.54	-0.72				

$$\text{Correction in Dep}_{CA} = \frac{+0.72 \text{ ft.} (750 \text{ ft.})}{1,800 \text{ ft.}} = +0.30 \text{ ft.}$$

Surveying - Traverse

Group Example Problem 2

➢ Balance the latitudes and departures for the following traverse.

Length (ft.)	Latitude	Departure	Corrections Latitude	Corrections Departure	Balanced Latitude	Balanced Departure
600.0	450.00	339.00	-0.180	0.240	449.82	339.24
450.0	-285.00	259.50	-0.135	0.180	-285.14	259.68
750.0	-164.46	-599.22	-0.225	0.300	-164.69	-598.92
1800.0	0.54	-0.72				

Surveying - Traverse

Group Example Problem 2

Questions?