

Exercise on Page 27 of the Course 4 Study Guide.

Calculate N-S

(single proportion for latitude on N-S lines)

1942 latitude S1/2: N.2708.06

1942 latitude N1/2: N2569.08

1942 total latitude: N.5277.14

Your retracement latitude: N.5281.07

Latitude of the S1/2

$N.2708.06$ (1942 lat. S1/2) \div 5277.14 (1942 total lat.) = 0.513168

0.513168×5281.07 (your retracement lat.) = **N.2710.08 Ft.**

Latitude of the N1/2

$N.2569.08$ (1942 lat. N1/2) \div 5277.14 (1942 total lat.) = 0.486832

0.486832×5281.07 (your retracement lat.) = **N.2571.01 Ft.**

Calculate E-W

(compass rule for departure on N-S lines)

1942 dist. of S1/2: 2723.82 ft.

1942 dist. of N1/2: 2581.92 ft.

1942 total dist.: 5305.74 ft.

Difference in departure: 7.08 ft.

Departure of S1/2

2723.82 (1942 dist. S1/2) \div 5305.74 (total dist.) = 0.513372

0.513372×7.08 (diff. in departure) = $E.3.63$ ft.(correction)

$E.-292.60$ (1942 departure of S1/2) + 3.63 (correction) = **E.-288.97 ft.**

(departure of this course is minus because it is a NW bearing, the correction is + because it is E.)

Departure of N1/2

2581.92 (1942 dist. N1/2) \div 5305.74 (total dist.) = 0.486628

0.486628×7.08 (diff. in departure) = 3.46 ft.

$E.257.18$ (1942 departure of N1/2) + 3.45 (correction) = **E.260.63 ft**

(the correction is + because it is E.)

Coordinates of the proportioned point: N.12710.08, E.9711.03

Bearing and distance of S1/2: N. 6° 05' 11" W., 2725.46 ft. (41.295 chs.)

Bearing and distance of N1/2: N. 5° 47' 19" E., 2584.16 ft. (39.154 chs.)

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Version