

Azimuth by account $90^{\circ} 33' 38''$ West

Correction $1^{\circ} 20'$

This shows that the line was bearing too much to the south. To correct this the instrument may be placed a certain number of inches to the north at right angles to the line. This offset is found by multiplying the distance of the back picket by the tangent of the correction, thus:

Log. 702 inches in a chain 2.8452898 ; $\pm$ constant

Log. tan. of $0^{\circ} 26'$ 6.620097

Log. dist. 21 chs. 22 lks 1.33975

Log. offset 1.1651375

Offset in inches 14.70

For the convenience of Surveyors the R.A. of Polaris will be found in the calendar of the Canadian Almanac for 1907 and the declination on page 34.

The mean places of the stars on page 32 will be found sufficient for Azimuth work. The column marked "Right Ascension" will be the sidereal time of the stars on the Meridian.

The following approximate formula will be found amply sufficient and simple for finding chord azimuths in township work.

$$\text{Tan. } \frac{1}{2} \text{ chord Az} = \frac{\sin. (s - a)}{\sin. s}$$

$$a \text{ (in seconds of arc) } = \text{chord in chains} \times 0.65105 \times$$

It will never amount to more than a few minutes of arc

$$s = (\text{co-latitude} + \frac{1}{2}a)$$

EXAMPLE

What is the chord azimuth for a chord of 718 chs., this being the length of chord necessary for 9 mile townships on O.L.S. Niven's 2nd Base line? The northern corners of the townships being in latitude $49^{\circ} 43' 19''$. Niven's Base line in latitude $49^{\circ} 35' 30''$