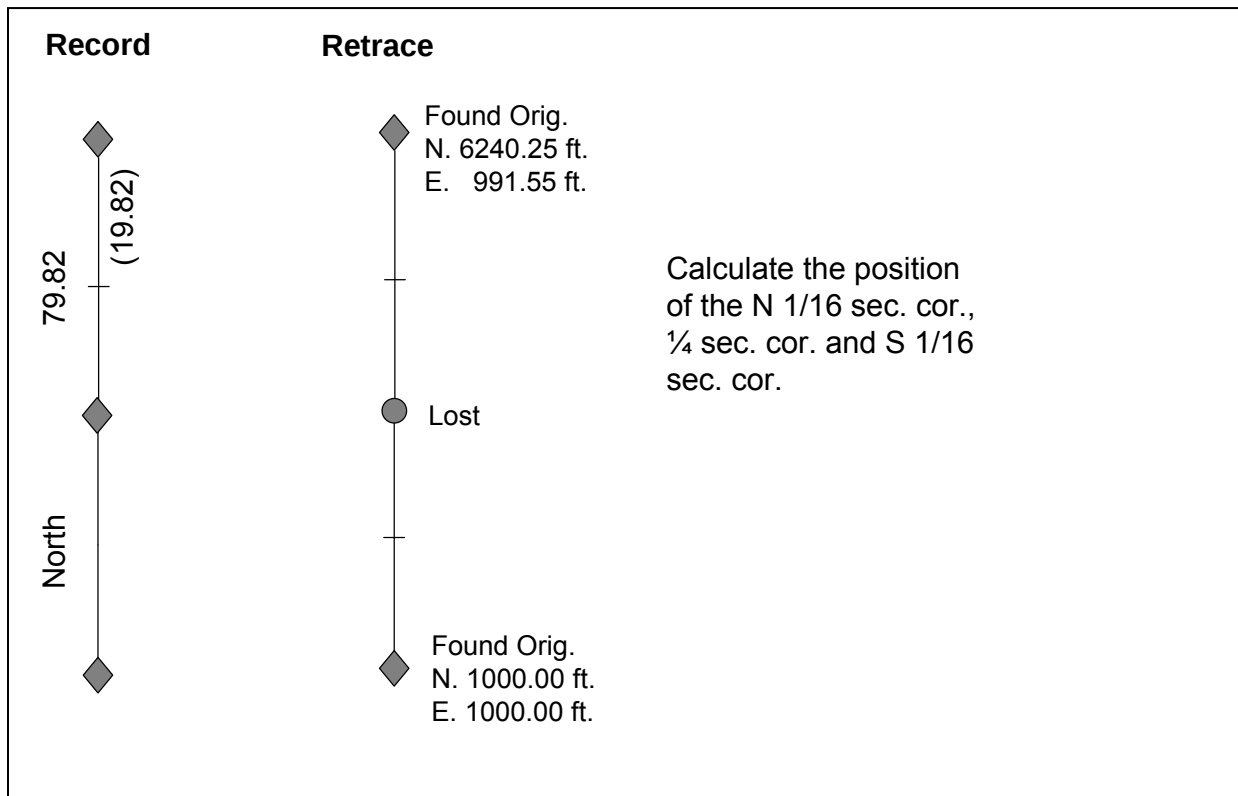


SINGLE PROPORTION EXERCISE



Record: North, 79.82

Retrace: N. 5240.25 ft.
W. 8.45 ft.

Calculate True Bearing and Distance

Dep. ÷ Lat. = Tan of the bearing

$$8.45 \div 5240.25 = 0.001613$$

ArcTan of 0.001613 = 0° 05' 33" = Retrace bearing: N. 0° 05' 33" W.

Dep. ÷ sin of the bearing = Dist.

$$8.45 \div 0.001613 = 5240.26$$

Calculate Proportion

Retrace distance ÷ Record distance = K

$$5240.26 \div 5268.12 = 0.994712$$

K x record dist. = Proportionate dist.

$$\begin{array}{rcl} 0.994712 \times 1320.00 & = & 1313.02 \\ \text{"} \times 1320.00 & = & 1313.02 \\ \text{"} \times 1320.00 & = & 1313.02 \\ \text{"} \times 1308.12 & = & \underline{1301.20} \\ & & 5240.26 \end{array}$$

Proportionate Position of the Corners

Sin 0° 05' 33" x 1313.02 = 2.12	Cos 0° 05' 33" x 1313.02 = 1313.02
" x 1313.02 = 2.12	" x 1313.02 = 1313.02
" x 1313.02 = 2.12	" x 1313.02 = 1313.02
" x 1301.20 = 2.10	" x 1301.20 = 1301.20

$$\begin{array}{l} \text{S 1/16: N. } 1000.00 + 1313.02 = \mathbf{N. 2313.02} \\ \text{E. } 1000.00 - 2.12 = \mathbf{E. 997.88} \end{array}$$

$$\begin{array}{l} \frac{1}{4} \text{ Sec. Cor.: N. } 2313.02 + 1313.02 = \mathbf{N. 3626.04} \\ \text{E. } 997.88 - 2.12 = \mathbf{E. 995.76} \end{array}$$

$$\begin{array}{l} \text{N. 1/16: N. } 3626.04 + 1313.02 = \mathbf{N. 4939.06} \\ \text{E. } 995.76 - 2.12 = \mathbf{E. 993.64} \end{array}$$

$$\begin{array}{l} \text{Sec. Cor.: N. } 4939.06 + 1301.20 = \mathbf{N. 6240.26} \\ \text{E. } 993.64 - 2.10 = \mathbf{E. 991.54} \end{array}$$